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## LECTURES ON CHEMISTRY,

BY

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*Delivered at the Royal Institution of Great Britain.*

### LECTURE IX.

*On the Phenomena of the Leyden Jar, and on the Modes of accumulating Electricity by Induction.*

GENTLEMEN,—You observed, in the last Lecture, that when substances were rendered electric, they had a tendency to be affected by surrounding substances; and that when two bodies were similarly electrified, they had a tendency, in all cases, to repel each other; I explained to you, also, what was meant by the similar and dissimilar electrical states of bodies, so that I need not say more on that subject. But you will remember, that if a globe of this kind (a brass globe) be brought near another, similarly electrified, it will be repelled by it, and attracted if dissimilarly electrified; and we found that the two electricities were sufficient to annihilate each other, and that if I made a communication between the negative and positive conductors of the machine, that all electrical efforts were put a stop to. We then proceeded to examine the electrical power which had a tendency to spread itself over certain substances, whilst other substances seemed to receive it only on the part touched, such as sealing-wax and glass; and this led us to divide bodies into conductors and non-conductors, and I mentioned the limitations with which these terms must be received. Having established these general facts, we then examined what happened when an electrified body was brought into the neighbourhood of another insulated electrified body, and we found that it was thrown into the polar state, and that either highly positive, or highly negative, according as the bodies were previously in the one state or the other, and that the moment they approached each other sufficiently near for a spark to be produced, or touched each other, that then all phenomena of polarisation ceased. So that you never see the electric spark produced, without being reminded of the annihilation of the two electricities. Now the *Leyden phial* exhibits a similar arrangement to the apparatus I before showed you; but instead of air being between the rows of metal, as in the spiral tube, you have the presence of glass. Here then you have the same thing happening, as with the former apparatus; you have an accumulation of electricity by induction, but the conducting medium, instead of being air, is glass. Now here you see are two plates of tin foil, one placed on each side of a piece of glass, which distributes the electricity over the surface of the glass, rendering the one surface of the glass positive and the other negative, and then by bringing the two surfaces into contact with a metallic conductor, a violent spark is produced, which annihilates the two electricities. Now, if you substitute a phial for a plate, you have a very convenient form of the same apparatus; that is to say, you have a stratum of glass which you can render electrical on its two surfaces, the interior by being in contact with this coating of tin foil, the exterior having also a coating of tin foil for the same purpose. And it is necessary, in charging a jar of this kind, to take care that every part of the jar is of the same thickness, or as nearly so as possible; the jar may be as thin as you like, but it should be of an uniform thickness, and it should be free from all asperities and points, which would convey away the electricity it is your object to accumulate. When the inner surface of the jar is rendered positive by union with the conductor of the machine, the exterior, being in connexion with the ground, becomes negative by induction, and a communication having been established with the external and internal surfaces, an explosion takes place, and all electrical phenomena cease.

In order to judge of the change which a jar of this kind has received, we avail our-

selves of electrometers of this sort, as I showed you in the last Lecture; but I show it to you also as being a useful contrivance, to tell you whether the jar has received its charge properly or not, whether it is diffused equably or otherwise. Now I have communicated a certain quantity of electricity to this instrument, which is called *Henley's quadrant electrometer*, and it is useful not only to show the degree of charge the jar has received, but how long it retains it. I have already adverted to the effect of asperities and points upon electrical apparatus, and stated to you that the result was to carry off electricity; and if we apply a brass *ball* to the conductor of the machine, we shall elicit a very powerful spark, but if we insert a point into the hole of the conductor, none, or very feeble sparks, can only be procured. If the hand be held over a point, you will feel a little curious air projected against it, called the aura electrica, which depends upon the rapid recession of the electrified air, affording a sort of stimulus to the part, which is sometimes rendered available for medical purposes. This shows you how necessary it is to have all electrical apparatus as free from asperities, as nearly round, and in as polished a state as possible; and you will now understand the reason why we oppose a row of points to the prime cylinder of the electrical machine to receive the electricity generated upon the surface of the glass, the points taking the electricity and conveying it to the conductor. Now to go back again to the theory of the Leyden jar, as adopted by Franklin. I have said, that in charging the jar in proportion as we throw electricity upon the inner surface, we must throw it off from the outer surface; and if this be the case, if we insulate the jar by placing it upon a non-conductor, it cannot be charged, because the electricity cannot get away from the surface of it; and we find, in point of fact, that it is necessary to connect the jar with the earth, or some great conducting surface, in order to charge it. In proportion as the electricity is spread over the internal surface of the jar, it passes off from the external surface, and if I place two or more Leyden jars in connexion with each other, provided the last be in communication with the earth, I shall find that both jars will be similarly charged, the internal surface being positive, and the external negative; and it has been often imagined, that because the external surface of the second jar is negative, there must be negative electricity thrown off from the first jar; but that is not the case. We shall have as many jars as we choose to employ, all in the same relation to each other, of positive and negative electricity. You will observe, that here in these Leyden jars, we have merely the counterpart of a series of conductors, glass serving as the medium through which the induction takes place.

Dr. Franklin contrived a great number of ingenious experiments to show the accuracy of his theory of the action of the Leyden jar. If we charge one jar with positive, and another with negative electricity, we shall find, by approximating the jars, that a discharge takes place, and that all electrical phenomena will cease. Now here I have connected one jar with the negative conductor of the machine, and another to the positive, and of course we shall charge both jars. If I now make a communication between them, we shall effect a discharge, and the whole of their electricity will disappear. Mr. Brande made the experiments just described, which, like all his other experiments, succeeded perfectly well.

I shall now endeavour to show you an experiment, which will serve to show you the use of the coating; to show you that it is useful merely to distribute the electricity over the surface of the glass, and that the electricity itself appears to adhere to the sides of the glass. Here is a jar constructed with moveable coatings; I shall first charge the coatings, and having done so, shall remove the jar; in the coatings, I shall find only a very small portion of electricity. But if I now replace the jar in the coatings, and bring its surfaces into communication, we shall find that it has retained its electricity, and will afford a powerful spark. Then we infer from this, that the electricity is spread over the surface of the glass. You now see the use of these *discharging rods* in making electrical experiments, because without them we should often get a shock through the body, which is by no means a very agreeable sensation. We use them for the purpose of transferring the electrical charge, and they are sometimes called dischargers. There is a great variety of experiments illustrating the phenomena of induction; but we must select those only which bear upon chemistry.

Electricians are apt to talk of *quantity* of electricity as opposed to *intensity*. By quantity, they mean that amount of electricity which may be diffused over a surface independent of its effect; and by intensity, to signify the power which electricity has of stepping from one surface to another. For instance, if I bring my finger near a body, and allow a portion of air to intervene, and if I then find the electricity is communicated to my body, I say that the electricity was in a state of intensity sufficient to pass from the body to my hand. But if I distribute the electricity accumulated upon a small surface over a large one, I perceive then, on approaching my hand, very little effect, because the quantity of electricity is

diffused over a large surface, and its intensity thereby diminished, although the absolute quantity was the same upon the two surfaces. And hence, when bodies are in connexion with the earth, we lose all appearances of electrical phenomena in them, and it becomes necessary, therefore, to insulate bodies, in order to bring them into a state of electrical intensity: the electricity lodging on the surfaces, and not in the mass of bodies. If we accumulate electricity upon large surfaces, we must not only recollect that we collect it in large quantities, but also in great intensity. In the Leyden phial you will have an opportunity of seeing this, and of noticing the fact, that in proportion as we get quantity we lose intensity. We have now the jar charged, as you have seen, with twelve turns of the machine, and you see that the spark produced is nearly an inch long; let us now extend the same quantity over a large surface, and we shall find, that although we have the same quantity of electricity, it has lost in intensity.

I mentioned to you, that the electrical discharge was attended with a considerable degree of *heat* and *light*, which is called the electric spark; and that it had been accounted for by the sudden, or impetuous, rush of electric matter through the air, extricating heat by its compression of the air. If we take a little spirit of wine, or æther, and pass an electric spark through its vapour, we shall generally find that there will be heat enough to inflame it, and you know that in order to inflame it a pretty high temperature is requisite. (The experiment was then made, and the vapour of æther inflamed.) If I dip a bit of tow in spirit of wine, and pass an electric spark through it, the tow will become ignited; and thus the chemist is often in possession of the means for igniting bodies without much trouble, through the medium of common electricity. I shall now pass an electric explosion through a small matter of wire, and the wire, you will see, will not only be made red hot, but will actually burn, exhibiting the effects of a very high temperature; and if the weather were favourable, I might show you that we can, in this way, burn metallic wires of very great thickness.

Now there is another application of common electricity to chemistry, which is very frequently made, namely, in the decomposition of substances, and procuring the combination of certain gases, and occasionally, of some fluids. You saw, in the last lecture, that electricity was often generated, as it were, or brought into action, upon solids changing into fluids, and on various alterations in the forms of matter, so that it is very difficult, at any time, to alter the state of matter without at the same time altering its electrical relations, although we do not observe their changes without proper attention. It was ascertained, long ago, by Mr. Brent, that when warm air was blown over dry glass, the glass became highly electrical; and that by puffing certain powders upon metallic plates, the plates became electrical; and he observed the curious fact, that certain substances, so blown, rendered the plates negative and others positive, depending upon their chemical nature; so that, if you change the state of a body, you will find that its chemical relations are altered. Now here, upon the cap of the electrometer, we shall place a little water, under such circumstances as will allow of its speedy evaporation, and you see how powerfully the leaves of the electrometer are diverged, indicating that electricity is generated; and if we examine the kind of electricity, we shall find that it is negative. Our earth is continually undergoing evaporation from its surface, and you may easily imagine what an immense quantity of electricity must be generated; the air becomes electrical, the clouds become electrical, and all this in consequence, merely, of the alteration in the forms of matter.

Then, again, in regard to the contact of metals, it may be shown, and indeed you will see experiments hereafter in illustration of the fact, that if we arrange different metals in contact with each other, their electrical states become changed; and this happens with the dissimilar metals, the metals most oxidizable being always positively, and the metals least oxidizable negatively electrical. Experiments of this kind seemed to have been made by Mr. Brent, but they attracted more attention by being observed to resemble certain effects upon animals, noticed by Galvani, who did not, however, attribute the motions observed in the animals to the metals, but to some nervous fluid which had found its way through the metals. Volta, however, discovered that the effects upon the animals are produced by the metals, and that the animal was merely a delicate electrometer. The animal fibre appears to be only the indicator of the state of electricity; I cannot procure a frog this morning to show you the effect of the contact of metals upon it, but it may be shown by a very easy experiment: if you put a piece of silver over the tongue, and a piece of zinc under it, the moment the two metals are brought into contact, you will perceive a peculiar brackish taste, and an indescribable prickling sensation in the tongue, the tongue being acted on by the electricity in the same way that the frog would be.

Now there is only another circumstance to which I need to advert, which is, the important chemical powers which the metals

derive in consequence of electrical relations, which we shall consider more fully in the next lecture. Here is some very weak acid, and here a piece of zinc and a piece of copper; if you introduce the zinc into the acid singly, it will produce but a very feeble action upon it, and upon the copper the acid exerts no action at all; but let us bring the two metals into the acid connected together, and it will then be seen that they act powerfully, that a great quantity of gaseous matter is liberated from the copper as well as from the zinc; and in the next lecture we shall consider the subject of the generation of electricity by the contact of the metals, and the construction of the Voltaic pile.

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## Lecture X.

### *On the Generation of Electricity by the Contact of Metals, and on the Construction of the Voltaic Pile.*

Gentlemen,—I stated in the last lecture, that when two dissimilar metals were brought into contact, their electrical states were disturbed, and that this fact was ascertained by Mr. Brent, and proved by his very delicate gold leaf electrometer. Now zinc is most readily acted on by air, water, and acids, and it is, in common language, the most oxidizable metal, for it is always found to assume the positive state compared with the others. Copper is less oxidizable, so that if it is our object to produce a powerful electrical arrangement by a combination of the metals, we select those which are most dissimilar from each other in their degrees of oxidization, and for all common purposes we select copper and zinc, as the metals best adapted to this object, being conveniently and economically applied.

The metals have been called *electrometers*, and I shall not stay to show you why this is the case, but you must be for the time content with the fact, that when you bring an easily oxidizable metal into contact with one less oxidizable, admitting that these were before sufficiently clean and pure, the least oxidizable assumes the negative and the other the positive state of electricity. I showed you, that the chemical properties of metals were materially affected by their electrical states, and that when one metal was in contact with another it acquired, in consequence of that contact, certain chemical peculiarities which must be attended to; these will be considered in the phenomena of the *pile*, which we shall soon have occasion to remark upon. Suppose now, having established these general facts, suppose, I say, that we now proceed to arrange copper and zinc plates, or, in other instances, zinc and silver, in a certain order in contact with each other, they will be found, in consequence of that contact, to have acquired a certain state of electrical polarity. Here is a small plate of zinc, and I put a small plate of copper upon it, and of course I cannot accumulate electricity in this way; I obtain all the effect that the pair of plates can produce, but there is no accumulation. Now it occurred to Volta, that if he interposed between the plates some substance admitting of the induction, not of the direct passage of the electricity then generated, he might be able to accumulate it to a considerable extent. Here, you see, is an arrangement of this kind; it consists of a number of discs of silver, and zinc and tissue paper, moistened by being dipped in an alkaline solution, many times alternated. You have, in this instrument, what Volta was a long time in search of, namely, an electropolar arrangement of extremities, which enables you to use the one or the other as may be required; and to prove that this is the case, I have only to touch the cap of the electrometer with the silver end, the leaves will be seen to diverge, and by keeping the extremity of the pile still for a little time, the divergence will be sufficient to enable us to ascertain its state, and it will be found to be negative; but if I touch the cap with the zinc extremity, the leaves of the electrometer will approach each other, and will diverge by approaching the sealing wax, showing that they were then in the positive state of electricity. It is by experiments, then, of this kind, that we ascertain the nature and state of the pile, and that we perceive it to be in a condition of electrical polarity, exactly resembling the Leyden jar; the zinc end of the pile being positive and the silver negative. If I now make a communication between the two extremities of the pile, I shall annihilate the electricity, and shall produce the same effects as when I made a communication between the inner and outer surfaces of the Leyden jar; but the electricity is by this contrivance generated afresh, and there is a constant current passing from one end of the pile to the other. There can be no doubt, then, as to the excitation of electricity in this way, and as to the state of the electricity, but as to the cause of its excitation there is a great difference of opinion; it is connected with many phenomena of which we know very little. By some it is supposed to depend on chemical action; by others on the mere contact of the metals, and there can be no doubt that by the mere contact of clear metals electricity is apparently generated, independent of any chemical action; I say apparently, because we must speak with some caution on these points, and that it is by the *induction* which takes place through the medium

of the substances interposed between the plates, that the accumulation is obtained to which many of the phenomena exhibited by the pile are owing.

Now this contrivance (pointing to one on the table) was made by De Luc, and it has been called De Luc's *electrical column*; it has been supposed to be different from the construction of the electrical battery, but for this I think there is no good reason. It is, as you see, a glass tube in which a number of alternating plates of silver, zinc, and paper are arranged, each extremity of the tube having a brass cap, one of which is always positive and the other negative.

Here is an arrangement in which we have a number of copper and zinc wires attached to each other, with pure water only intervening, and you will find that in this apparatus also the zinc extremity is in the positive state, and the copper in the negative, but that you have a central part which is neutral; but on making a communication with the ground, we have the opposite extremities proportionably excited, and thus have just the same effect produced as with the Leyden jar, or rather with its conductors under induction: but then when you have discharged the Leyden jar, there is no regenerating power in it; here, however, there is such a power, and there is a constant current kept up, or supposed to be kept up, from the positive to the negative end of the apparatus. (Experiments were then made to show this fact.) Now we arrive at Volta's experiments on the pile, to whom we are principally indebted for this felicitous contrivance, although Mr. Brent's discovery must not be overlooked. Volta proceeded to make such an arrangement as might enable him to accumulate the electricity generated by the contact of the metals, and one of the forms of the apparatus which he contrived, was a number of cups containing dilute sulphuric acid, into which he immersed wires of zinc and silver soldered together, arranged in regular order; so that you perceive there is a silver and zinc wire in each glass, but they are not in communication, the fluid interposing between their extremities, and although you have a zinc wire in the same cup with the silver, there is a break in their arrangement, and consequently their electrical effect is interrupted. You may observe, that the acid is slightly acting upon the zinc only; but if I make a communication between the extremities of the arrangement by passing another wire from the one to the other, you will see that the silver wire is in action as well as the zinc, and that they are both giving off gas, and this is only in consequence of the current of electricity generated. Volta called this arrangement the *couronne de tasses*, and I show it you, because it is a type of the Voltaic pile. Various modes of constructing the apparatus have been resorted to for the purpose of rendering it more convenient and active; sometimes double plates of zinc and copper have been soldered together, and cemented into wooden troughs in regular order, the intervening cells being filled with water or saline and acid solutions; but a serious inconvenience attaches itself to this apparatus, which is the difficulty of emptying the cells, and therefore it has been much improved upon, as we shall by and by see. In all the experiments of this kind we observe, that the electricity is regularly generated or produced, but that it is materially affected by the nature of the intervening medium; that in water a weak effect is produced; that by using acids the power is considerably increased; but that when we wish merely to get evidence of the excitation of electricity, pure water is preferable. A greater effect in the way of shock is produced by the water, but you cannot ignite wire, nor produce those effects which we have already ascribed to the quantity of electricity, and this effect we procure by altering the nature of the medium between the plates.

Now here is a Voltaic pile, which was one of the first instruments of the kind that was employed, and you easily observe, that it consists of a series of alternations of copper and zinc plates and moistened flannel; first a piece of copper, then a piece of flannel, and a plate of zinc. If I moisten my fingers so as to make the cuticle a conductor, and touch both ends of the pile, I shall feel only a weak shock produced; but if I affix a metallic conductor to each pole of the apparatus, and then bring these conductors into contact, a very luminous spark will be produced, and if I direct the two streams of electricity upon a piece of charcoal, the light is not only very vivid, but long continued; the conductor from the zinc side of the pile carrying the positive electricity, as being the most oxidizable metal, and the conductor from the copper extremity carrying the negative electricity; and this is always the case. If we interpose combustible bodies upon a piece of charcoal between the extremities of the conductors, they become heated, ignited, and burn with considerable intensity, as you will see presently, when we use a larger apparatus. If we bring the conducting wires in contact with water, they will decompose the water; the one wire will give off oxygen, the other hydrogen, the elements of the water; the latter being liberated at the negative pole, and the former at the positive.

If we examine the state of the wire during the time it is carrying this current of electricity, we perceive a curious fact, which was discovered by Oersted, that the wire

carries a current of magnetism at the same time; but the chemist has nothing to do with that. These are some of the principal phenomena that we observe in connexion with these experiments. Now there is some inconvenience in the apparatus of Volta, arising from the drying of the flannel, which is placed between the metallic plate in the construction of the pile, and therefore the effect is liable to be interrupted; and to do away with this, Mr. Cruikshank of Greenwich, some years ago invented a trough in which the plates of zinc and copper were soldered together in a trough containing water, by which the electric effect was kept up a longer time than by the arrangement of the Voltaic pile; this, however, was found inconvenient, in as much as it was difficult entirely to remove the fluid from the plates, and they were soon oxidized and destroyed; and I believe that Dr. Babington first used an earthenware trough, into which he immersed the metallic plates, which were strung together and connected to wooden frame work, by which contrivance they might be let into and removed from the acid or other fluid at pleasure. There is a peculiar modification in this form of the Voltaic apparatus, which is this: there is, you observe, a thin plate of copper doubled round the zinc plate, so as to oppose it to every surface of the zinc plate. We have not, you perceive, a single plate of copper and zinc, but the copper is doubled round it, and this is a contrivance of Dr. Wollaston, which very materially increases the power of the electricity generated in the trough. It may be regarded as the most economical and useful form of the Voltaic apparatus, especially for all those experiments in which quantity as well as intensity is wanted. Dr. Wollaston was in the habit of showing the effect of this form of apparatus, by comparing it with the influence of a single pair of plates upon a piece of platinum wire, which produces no effect upon the wire; whereas, with this contrivance, you can easily succeed in igniting and fusing it. Now, here you see the light produced by the destruction of the electricity of the two poles of a very moderate-sized apparatus, and you observe how very brilliant it is, resembling that of the sun, not only in its intensity, but also in its chemical properties. If I place a piece of wire between the two poles of the apparatus, you will see that it soon gets red hot and fuses, and, in this way, we can fuse platinum wire, and other difficultly fusible bodies. We may burn the metals by an arrangement of this kind; here is a portion of quicksilver which burns with a greenish light, and throws off a quantity of fumes, which are an oxide of the metal. Gold, copper, silver, and several other metals, were burnt, to show the variety of colour which the flames furnish. Iron wire was readily melted, and thrown off in globules; zinc burned with almost the same facility as paper; the combustion of the zinc affording a dense white flocculent oxide, formerly called philosopher's wool, which floated about in the rooms, showing that there is an intense heat as well as light generated.

Here is some water contained in a strong glass vessel, through which we shall pass the electricity; in this case the vessel of water will represent one of the cells of the battery; the water is immediately decomposed, and the gaseous matter is evolved in a definite mixture of two volumes of hydrogen, and one of oxygen; and this important discovery, as well as the discovery of the decomposition of some saline bodies, was made by Messrs. Cruikshank and Carlisle, when examining the properties of the electrical pile; but it was imperfectly understood, until Sir Humphry Davy took up the subject; which, as you know, led him to these important investigations, that terminated in the discovery of the basis of the alkalies, and other substances, supposed before to be simple bodies. Now, in the decomposition of the water, the oxygen is given off at the positive pole, and the hydrogen at the negative; and it follows, that as the *oxygen* is attracted by the positive poles, its inherent, or natural electrical state, must be negative; and, therefore, we call the *supporters of combustion*, or acidifying bodies, *electro-negatives*; and we call *hydrogen* and *inflammable bodies*, *electro-positive bodies*, because they are attracted by the positive pole, upon the principle of similarly electrified bodies repelling each other, and dissimilarly electrified bodies attracting each other. Now, if we submit saline solutions to the action of the Voltaic pile, we shall find that the salt is decomposed along with the water, and that its elements are attracted by the poles of the battery, according to similar laws. Here is a solution of Glauber's salt in water, and the water is coloured, in order to show you the liberation of the acid at the one pole, and of the alkali at the other; and, in order to show you this more clearly, we use an apparatus of this kind. Here you observe are two glass cylinders filled with the coloured solution of Glauber's salt, inverted in two shallow basins of water, and the two are connected together by a small tube passing from the mouth of one cylinder to the other. The conductors are introduced separately into the mouths of the inverted vessels; and, in the one, you will have the oxygen and the acid matter of the solution, and, in the other, the hydrogen and the alkali of the salt; in the first the colouring

matter will be changed into red, and, in the latter, it will be green. You will perceive that the acids and alkalies will pass each other uninfluenced by chemical attraction, but as soon as you remove the electrical influence from the solution, the former relations will be renewed. If we could show you that alkalies and acids could be produced in pure water by electricity, we should show you a very important fact; but Sir Humphry Davy ascertained, that the acid and alkali previously existed in the water, and therefore proved, that all we effected was the separation of their elements, and that no new matter was generated. He showed that this separation was accomplished in the most perfect manner; that chemical attraction seemed to be overcome by electric attraction, and he was then led to infer that a number of substances before deemed elementary, might give up their elements when submitted to this mode of decomposition; and you know that the result of his examinations, with regard to the alkalies, was the great discovery of the metallic nature of their bases. So that you will remember, that whenever you decompose bodies chemically, water must be present; or oxygen and hydrogen the elements of water; and whenever you have chemical decomposition going on by electricity, you will generally have them collected at the two poles.

Now, there are some other facts connected with the generation of electricity, and its general phenomena, to be considered, more especially with regard to quantity and intensity; and, in the next and concluding lecture on this subject, I shall point out a few of the natural phenomena in which electricity is concerned, and advert to one or two of the principal facts connected with the excitation of magnetism by electricity.

## FOREIGN DEPARTMENT.

### STOMACH OF BIRDS.

In most birds, the stomach lies at the upper part of the abdomen, that is, close to the spine, and rests, in a manner, on a stratum of intestines; in the *cuckoo*, however, it lies below. This peculiarity does not belong exclusively to that curious bird, for I have found it in the *ramphastos* and the *corvus caryocatactes* (the nut-cracker).

The structure of the stomach differs most widely in the different orders and genera of this class. It appears merely as a thin membranous bag in several of those which feed on flesh and insects, when compared with the thick, muscular globes of the granivorous genera. But there are both many intermediate links between these extremes, and at the same time considerable analogies in the structures, which are apparently the most opposite. This is particularly observable in the course of the muscular fibres, and in the callous structure and appearance of the internal coat, in which points many membranous stomachs have a great resemblance to those of the *gallinæ*.

Both parts, but particularly the muscular, are very strong in the gizzard (*ventriculus bulbosus*) of granivorous birds. We find here, instead of a muscular coat, four immensely thick and powerful muscles, viz., a large hemispherical pair at the sides, (*laterales*,) and two smaller ones (*intermedii*) at the two ends of the cavity; all the four are distinguished, both by the unparalleled firmness of their texture, and by their peculiar colour, from all the other muscles of the body.

The internal callous coat must be considered as a true *epidermis*, since, like that part, it becomes gradually thicker from pressure and rubbing. It forms folds and depressions towards the cavity of the stomach, and these irregularities are adapted to each other on the opposed surfaces. The cavity of this curious stomach is comparatively small and narrow; its lower orifice is placed very near the upper. Every part of the organ is, indeed, calculated for producing very powerful trituration. The numerous experiments which Reaumur performed, in order to determine the extent of this triturative power, are universally known. There are two curious observations on this subject less generally known. Felix Plater found an *onyx*, which had been swallowed by a hen, to be diminished by one-fourth in four days; and a *louis d'or* lost in this way 16 grains of its weight. The end and use of swallowing stones with the food, the well known instinctive practice of granivorous birds, have been very differently explained. Cæsalpinus considered it rather as a medicine than as a common assistance to digestion; Boerhaave, as an absorbent for the acid of the stomach; Redi, as a substitute for teeth. According to Whytt, it is a mechanical irritation, adapted to the callous and insensible nature of the coats of the stomach. Spallanzani rejected all supposition of design or object, and thought that the stones were swallowed from mere stupidity. I think there is not much sagacity to be discovered in this opinion, when we consider that these stones are so essential to the due digestion of the corn, that birds grow lean without them, although they may be most copiously supplied with food. This paradoxical opinion has, however, been already refuted by Hunter and Fordyce. The

use of swallowing these stones seems to me to consist in this, that they kill the grain, and deprive it of its vitality, which otherwise resists the action of the digestive powers. Thus it has been found, that if the oats and barley given to horses are previously killed by heating, the animal only requires half the quantity, and yet thrives equally.—(*Blumenbach's Comparative Anatomy, by Lawrence.*)

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TWO CASES OF DISLOCATION BACKWARDS OF THE RADIUS, AT THE ELBOW JOINT. *By* C. J. M. LANGENBECK, *Professor of Surgery and Anatomy, at the University of Göttingen.**

Dislocation of the radius backwards must be an extremely rare occurrence, since Sir ASTLEY COOPER never met with this accident in the living, and only once in the dead subject. With the exception of the two cases which I am about to relate, I never met, during the whole course of my professional career, with a dislocation of the radius in any direction. Last winter, however, two persons were brought into the hospital with a luxation of the radius: in one case, the man was twenty years old, and the accident of six weeks standing; in the other, the injury occurred in a child five years of age the day before its admission into the house. In both, the symptoms were so distinctly marked, that on the first inspection of the part, I recognized the nature of the injury before me. On an examination of the joints, the head of the radius was found thrown a little backwards and outwards from the external condyle of the humerus, and could not be immediately detected. The peculiar form of the radial side of the fore-arm, without displacement of the ulna, chiefly indicated the nature of the mischief. At the origin of the supinator radii longus, the extensores carpi radiales, and the other extensors from the external condyle, and the upper position of the radius, there was a marked prominence; the form was somewhat similar to what we meet with in rickety persons, in whom the radius is generally bent. The hand was prone, and could not be brought into a state of supination; the fore-arm was moderately bent, in which position it was fixed, for the arm admitted of neither flexion or extension. On the inner side of the internal condyle, the skin was lax, and presented a depression, in which the internal articulatory surface of the humerus could be felt. On tracing the radius from below upwards, the finger came against the external condyle, behind which, in the adult, the articular circumference only of the head of the radius could be felt, and next to it the olecranon. On placing the fingers on the radius in this spot, and moving the bone as far as it admitted, the motion was also communicated to the finger. Behind and below the external condyle in the child, the glenoid cavity of the head of the radius could be felt.

Although the first dislocation was of old standing, attempts at reduction were made. The principal measure to be adopted, appeared to me a powerful but gradual extension of the fore-arm, in order, by this plan, to draw the head of the radius towards the articulating surface of the humerus; at the same time, making counter-extension of the upper arm, I passed the dislocated head inwards. As in this case, very strong and long-continued extension was absolutely necessary; I could now completely stretch out the fore-arm, which before was not practicable, and thus push the head of the radius inwards. The limb was kept in this situation by splints and bandages, and the patient was soon able to move the fore-arm in the four directions, to a very considerable extent, and then left the hospital. In the child, moderate extension only, with pressure, was quite sufficient to reduce the dislocation.

The dislocation of the radius in any direction so seldom occurs, that it may be interesting for a moment to inquire into the nature of the force necessary for the production of this accident, and the anatomical effects which result from the injury. The head of the radius is so completely protected and concealed on its outer and fore part, that the chance of displacement from force applied in these directions, is considerably diminished. The only situation, then, where the application of force is likely to effect displacement of the head of the radius, is in the palm of the hand, opposite to the muscles of the thumb; but in falling, the whole palm of the hand generally receives the shock of the fall, which will then be communicated to the ulna, as well as to the radius; and the former bone being more easily dislocated, is that which commonly suffers.

When the displacement of the radius occurs, the orbicular, as well as the cap-

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* Langenbeck's Neue Bibliothek für die Chirurgie und Ophthalmologie, vol. iv. pt. 3.

sular ligament, will be lacerated, and very probably some of the superior fibres of the interosseous ligament. The latter may, perhaps, be stretched sufficiently to allow of the displacement, but the orbicular ligament will be invariably ruptured, of course assuming that the ulna remains in its situation.

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LIGATURE OF THE SUBCLAVIAN ARTERY.

Professor Langenbeck performed the operation of tying the subclavian artery above the clavicle, on a student in whom the arteria axillaris was wounded in a duel. Beneath the platysma and superficial fascia, the operator met with an anastomosis of veins between the external jugular, transverse scapular and transverse of the neck, which he pushed to one side with the handle of the scalpel, and thus avoided wounding these vessels. The transverse scapular and transverse cervical arteries were avoided with care, not only from fear of hæmorrhage, but of destroying those anastomoses by which the circulation is afterwards to be carried on. The division of the transverse cervical artery will be the more prejudicial to the restoring of the circulation, if the art. dorsalis scapulæ be, as it frequently is, given off from it. It is of great importance, when the operator has the choice, to tie the artery on the outer edge of the scalenus anticus, since it gives off, before it passes under this muscle, all the branches which may be injured. In tying the artery on the inner edge of the scalenus, the recurrent nerve on the right side, and the phrenic nerve, might be wounded. One of these nerves passes under and the other over the subclavian artery before it has passed between the scaleni. In the perfectly unseparated state, the omo-hyoideus lies close to the posterior half of the clavicle, and on the inner or inferior portion of the subclavian artery, it must be pushed upwards.

Professor Langenbeck passed the ligature round the artery from above downwards, i.e. between the nerves and the vessel, and then tied it. The ligature came away on the eleventh day, and the motions of the arm gradually returned. There was no perceptible difference in the size of the two arms but on the side operated on, the pulsations of the radial artery were not restored.

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## ON MEDICAL EDUCATION IN THE GERMAN UNIVERSITIES.

*By* C. M. Kind, M.D.

The peculiar interest which, at the present moment, seems to be excited by the plan of medical education in the Continental Schools, in comparison with that followed in Great Britain, has induced me to draw up the following concise account of the manner in which the study of medicine is prosecuted in the *German Universities*. All comparative remarks will be carefully avoided, and it will be left entirely to the readers to decide, whether the numerous points in which it differs from the method adopted in this country, are really so advantageous and indispensable, as they are universally considered to be in Germany.

Before entering into an exposition of the manner in which medical education is there conducted, I deem it necessary to make some general observations, which will easily account for several differences between the two methods.

I shall not examine whether the study of medicine, surgery, and midwifery, ought to be separated, this question having been long ago and unanimously answered in the negative,—not only in Germany, but on the whole continent. The practice of the three medical branches is, indeed, separated in Germany, but only because a full theoretical knowledge of, and a practical skill in them, cannot be found combined in one individual; still less can it be expected, when the practitioner combines with these the profession of an apothecary, nay, even the business of a chemist and druggist, that he should possess a sufficient knowledge of *any* of his various vocations. For this reason, with us, apothecaries are not allowed to visit patients, and their business is confined to the preparation of medicines prescribed by the practitioners. This circumstance, extending likewise over almost the whole continent, accounts for the scarcity of apothecaries, compared with the number of physicians and surgeons, while the contrary obtains in Great Britain.

One of the most beneficial effects arising, in some degree at least, from the non-division of the study of the three medical branches, is the perfect equality of *all* practitioners; all are entitled to the same pretensions and rights, and not the least superiority of rank or consideration in society is attached to any one branch. This equality also depends in a great measure upon the circumstance of all practitioners having received a classical education.

From what has been said of the com-

bined study of medicine, surgery, and midwifery, it will be inferred, that the propriety of male attendance in all cases of delivery is universally admitted; there are, indeed, in all German states, public institutions, in which midwives are taught the elements of their profession; every midwife is carefully examined, before she is allowed to practise; her license is confined to the normal cases of delivery; and, on the least deviation from the natural process, she is compelled to require the aid of an accoucheur, under pain of the forfeiture of her license: yet, notwithstanding these measures in favour of the professional education of midwives, their practice is entirely confined to the lower classes.

The following are the ordinary professorships established in almost all German universities: anatomy, physiology, chemistry, botany, pathology and therapeutics, and surgery. These professorships are separate, and it rarely happens that two of them are held by one individual. The ordinary professors form what is called the medical faculty, to which, in point of medical law, the highest authority is attached. They form the board of censors, inspect the hospitals, examine the apothecaries' shops, &c. A certain number of their lectures is public and accessible to every student gratuitously; private lectures are also given by them. Besides the ordinary professors, there are extraordinary ones of the history of medicine, of general pathology, of comparative and morbid anatomy, &c., and private lecturers on all medical sciences, as will appear from an extract from the catalogues of lectures given in the universities of Leipzig, Goettingen, Berlin, and Heidelberg:—

## NUMBER OF LECTURERS.

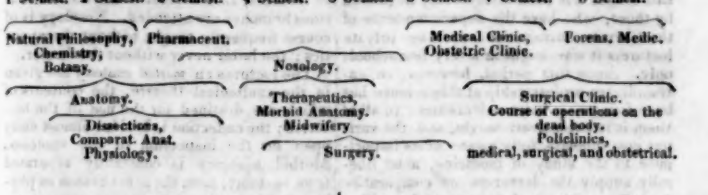
| | LEIPZIG. Summer Course of 1827. | GOETTINGEN. Winter Course of 1827-28. | BERLIN. Summer Course of 1827. | HEIDELBERG. Summer Course of 1827. |
|---|---|---|---|---|
| On the History of Medicine | 2 | — | 1 | — |
| Anatomy | 4 | 4 | 3 | 2 |
| Physiology | 4 | 3 | 4 | 1 |
| Botany, and on the Physiology of Plants | 3 | 2 | 3 | 4 |
| Natural Philosophy | 1 | 1 | 3 | 1 |
| Chemistry | 4 | 2 | 4 | 2 |
| Nosology | 8 | 6 | 12 | 2 |
| Psychical Medicine | 1 | — | 1 | 1 |
| Dietetic | 2 | — | 1 | — |
| Pharmaceutics | 2 | 1 | 4 | 3 |
| Materia Medica | 2 | 4 | 5 | 2 |
| Therapeutics | 5 | 5 | 8 | 2 |
| Surgery | 3 | 2 | 5 | 1 |
| Midwifery | 1 | 1 | 3 | 1 |
| Clinic | 4 | 4 | 6 | 3 |
| Forensic Medicine | 1 | 1 | 4 | 1 |

There is, in almost every university, a large building in which the lectures are given, and which contains, besides an appropriate number of lecture-rooms, the anatomical, zoological, mineralogical collections, chemical and physical laboratories, library, &c. The collections are destined for the lectures; they are also open during certain hours of the day to the students, and the public at large. The different lectures being given in one buliding, the student is enabled to attend them without any loss of time; besides, by agreement amongst the professors, the most important lectures are given at different hours, in order to prevent collision.

Whoever wishes to enter at the university, must produce a certificate of his having received a classical education. This regulation is *most rigorously* enforced in all universities; and as they alone contain the schools of medicine, the assertion, that all practitioners receive a classical education, is sufficiently confirmed.

Every student is at liberty to study what and how he pleases, nor is any period fixed for the study of his profession, the admission to practice depending entirely upon the result of his examinations. The time varies from four to five years; less will not be sufficient for the acquirement of a solid knowledge of the various sciences generally

attended to, nor indeed for passing the examinations, an account of which shall presently be given. The following prospectus of those lectures which are generally frequented by the medical student during the period of his studies, may be considered as exhibiting the order which is universally deemed best, and consequently adopted by most of the students :—




The lectures are delivered in summer and winter courses, which together take up a space of about nine months and a half.

I shall now show the method in which the lectures on the various branches are delivered, noticing those peculiarities only, which distinguish it from that adopted in Great Britain.

The lectures on *natural philosophy* and *chemistry* are given from four to six times a week, the latter sometimes in a half yearly course; but, in this case, they are usually attended twice over. I need hardly mention, that those parts of physics and chemistry which deserve the peculiar attention of the medical student, as electricity, optics, animal chemistry, &c., are often separately taught, and that all these lectures are illustrated by numerous experiments. Not unfrequently instruction, relative to the use of the physical and chemical instruments, is given in a detached course of lectures.

*Botany.*—The systematical part is generally taught in a summer course, lectures being given from four to six times a week; phytotomy and physiology of plants during the winter. Besides the use of the botanical garden belonging to the university, in which the summer course is usually given, considerable instruction is derived from frequent excursions into the country made by the lecturer with his class; thus, by reference to nature, the student is best taught to know, to distinguish, and to compare the characters of the different plants, to consider the nature and situation of the soil, its chemical composition, &c. In this manner the lecturer is furnished with a constant supply of interesting and practical remarks upon his subject.

The lectures on *anatomy* are attended during from one to two years. The perusal of the prospectus will give rise to the question, whether lectures on anatomy, unassisted by dissections, ought to be given at all, and whether these lectures ought to be separated from those on physiology. Experience decides in the affirmative, and speaks in favour of the course adopted abroad. A half yearly, sometimes a yearly, course on anatomy, precedes, and serves as an introduction to the dissections, which evidently cannot be equally instructive, without a previous general knowledge of anatomy. In this elementary course, anatomy is taught according to its division into osteology, syndesmology, myology, angiology, splanchnology, and neurology. These lectures are illustrated by the preparations contained in the museum of the university, by wax models, plates, and by demonstrations on the dead body. After these lectures, the second course is attended, which might be called a course on combined or surgical anatomy, as its principal object is to teach the natural situation of, and the relation between, the different parts of the body. At this period, the student enters the dissecting-room, and attends it daily during two semesters. Fortunately, hardly any prejudice exists in Germany against post-mortem examinations and dissections, and there is almost a constant supply of subjects from the hospitals, the poor, and workhouses, &c. Many persons of the lower classes even dispose of their bodies during life; suicides and executed criminals are also brought into the dissecting-room. By these means, there is but seldom a scarcity of subjects; and it may be safely asserted, that in Germany every student may dissect almost as much as he chooses. The dissections are conducted in the following manner: the demonstrator of the anatomical theatre, who is also appointed to take care that there is a constant supply of bodies, divides the subject into the head, thoracic viscera, abdominal viscera, genitals, upper extremities, femora and crura, so that one subject is distributed amongst ten individuals. Thus, during one semester, each part is many times dissected by the same student. The demonstrator, who is always a most skilful

anatomist, (as at Leipzig the well-known Bock, and at Berlin the celebrated Rudolphi,) superintends and directs the dissections.

*Comparative Anatomy.*—It must be confessed, that till within the last ten years this branch has been considerably neglected by those, who have the superintendence of the German universities: even by private lecturers it was taught in a very few schools only. Since this period, however, an extraordinary professorship of this science has been founded in most universities; in all of them it is extensively taught, and the various governments, fully aware of its importance to the study of medicine, most liberally supply the lecturers on comparative anatomy, with the best means for calling to it the attention of the medical students. A cursory review of what has been done in Germany, during the last ten years, with respect to comparative anatomy, will exhibit the beneficial results of this encouragement to the study of general anatomy. The same may be said of the lectures on mineralogy and natural history, which, in all universities, are numerously attended by the medical students, although they are not generally considered indispensable.

*Physiology.*—These lectures are invariably separated from those on anatomy, and always follow the elementary course of the latter science. It is clear, that without a previous study of anatomy, physiology cannot be understood; it is, moreover, to be feared, that if anatomy and physiology were taught together, the study of the former would in most cases be neglected, the interest of the student being naturally more excited by the latter. The references to anatomy incidental to the physiological lectures, accordingly are considered as a repetition and application of what has been already taught. Those parts of physiology which deserve most attention, are separately delivered, and sometimes, as is done by Tiedemann at Heidelberg, experiments on living animals are combined with the physiological lectures.

Although the medical practitioner has nothing to do with preparing and compounding medicines, the knowledge of *pharmaceutics* is deemed indispensable, and the lectures on it are accordingly regularly attended. Very often separate lectures are given on the manner of prescribing, on the best method of examining the medicines contained in the pharmacopœia, on medical chemistry, toxicology, &c.

*Pathology.*—It may be mentioned here, that the German school divides this branch into general and special pathology. The former contains a general view of disease, its classification and its stages, its external and internal causes, its symptoms; not in the order in which they are met with, but separately and independently of each other, while the latter embraces the special descriptions of the different diseases—*nosology*. It appears from the prospectus, that the study of pathology occupies a considerable period, and from the comparative number of lectures, that several courses on its various branches are attended. Nosology is of course frequently taught without therapeutics; the latter never without the former.

The lectures on *morbid anatomy* are given in the anatomical theatre, the contents of which are destined for the use of the lecturers; the collection is besides almost daily open for the inspection of the students. Morbid anatomy is constantly separated from anatomy, from the same reason as physiology is.

The principal object of the *clinic*, to which our attention is next called, is to *introduce the medical student into the field of observation, to lead him from theory to practice*. Here he has not only an opportunity of observing, but is taught *how* to observe: under the superintendence of experienced men, he *acts*, for the first time, as a practitioner; here he is instructed how to *examine*, is accustomed to *found his diagnostic on reason carefully* weighed, and to *determine* his treatment upon rational indications: he is led to compare, to distinguish, to infer, contemplating Nature herself. This part of medical education, highly advantageous as it is, is *entirely* wanting in the medical schools of Great Britain, as will fully appear from a concise account of the manner in which the clinic is conducted in Germany.

We need hardly say, that it is divided into medical, surgical, and obstetrical clinic, (to which, in some universities, a clinical course of psychical clinic is added,) and that, consistently with the non-division of the study of medicine, surgery, and midwifery, these clinics are visited by every student. The number of students at each clinic seldom exceeds twenty; were the number greater, they would be deprived of the principal requisites for clinical instruction, viz. of the opportunity of seeing and hearing. The number of clinical patients is also generally limited to 16 or 20; it is evident, that a greater number of cases would only confound those who see them for the first time, and who are to be accustomed to careful observation. The clinic is generally held in the town hospital, to which the clinical professor in most cases is appointed physician; at all events he is at liberty to select those cases from the hospital patients, which seem to him best adapted for clinical instruction. It is clear, that at the beginning of the course he prefers the most common cases, as rare and curious complaints would only tend to perplex the student.

At first it is even advisable not to bring too great a variety of cases into the clinical wards; several of the same nature will be more fit for the observation of the pupil, than twenty of different diseases. The clinical wards are visited daily for about two hours, and no remission or interruption on the part of the professor, or on that of the students, is permitted, as it would prove greatly injurious to the principal object of the clinic, viz. to accustom the young practitioner to strict and steady observation. The time of the day is of course optional; from eight to twelve is usually preferred, in order to give the student time to visit his patients once more in the course of the afternoon. The clinical instruction being given at the bed-side, it is most advantageous to deliver it in Latin; however, this is done at but few universities: at Leipzig, which undoubtedly possesses the best clinic now in existence, it is given in excellent Latin by that distinguished individual, Clarus. At some universities, the clinical students are divided into *auscultants* and *practicants*, the former being admitted to the clinic, but without practising, which is done by those only, who have entered the second class. This division is very judicious; it prepares the student for his practical exertions, and prevents much loss of time. Previously to his admission to the clinical class, he must produce certificates of his having attended the necessary lectures, and not unfrequently must even first undergo an examination.

At the head of each bed in the clinical ward, there is a board with the following inscription;—

NOMEN MORBI.

| Nomen ægroti. | Ætas. | Tempus, per quod laborav. ant. admiss. in nosocom. | Remedia. | | Regimen. |
|---|---|---|---|---|---|
| | | | Interna. | Externa. | |

In several clinics, an account of the principal symptoms, &c. is added.

The clinical instruction is delivered in the following manner:—At the appointed hour, the professor enters the clinical wards, surrounded by his pupils. If a new patient has been admitted, he immediately proceeds to his bed, and calls upon the pupil, whose turn it is, to examine the patient before himself and the rest of the students. During this examination, the professor constantly bears in mind, that by the clinic the student is to be introduced, as it were, into his practical career. He therefore rigorously insists on a concise, but most accurate examination; he moreover accustoms the student to adopt always a consistent order in his investigation; he convinces him of the uncertainty of our diagnosis, and thus inspires him with the most ardent desire to penetrate into the nature of disease. The student begins with the name, the age, and the business of the patient, he inquires into the diseases under which he previously laboured, into the cause and commencement of the present one, &c., in short, he investigates what he thinks worthy his attention, and necessary for the determination of the diagnosis. During this examination, the professor remains a quiet observer, interrupting it only when necessary questions are omitted, when it becomes prolix and tedious, or destitute of order. When the student thinks he has sufficiently examined the patient, he gives his opinion as to the diagnosis, detailing those characteristic symptoms by which he formed it. The diagnosis being ascertained, he proposes his indications of cure, and founds on them his plan of treatment, into all the particulars of which he enters. These different topics always furnish ample subjects for instructive conversation. In the afternoon the student visits his patient again, if it be an acute case, and any alteration may be anticipated within so short a period. The next day he makes a concise and accurate report of the case, and of the treatment adopted, as well as of the state in which he found the patient at his second visit. He again examines the patient, and then a discussion ensues respecting the changes which have happened, and may require an alteration of treatment. In this manner the clinical course is continued; according to the importance of the case, it serves more or less frequently as the subject of the professor's observations, while the student, who is intrusted with the care of it, continues his visits, as well as his examinations, daily. During the treatment, he keeps an accurate journal in Latin, which, after the termination of the case, is deposited in the clinical wards, after having been read and commented upon by the professor before the class. Should the case end fatally, an examination of the body is made by the student in the presence of the professor and the pupils, and careful minutes taken of the results. The comparison with the diagnosis previously given, the possibility of cure under a different plan of treatment, the various alterations, &c., will in every case give rise to an instructive discussion, under the management of the professor, who in general,

during the whole treatment of the case, *rather superintends than acts.*

The great advantages of such a method of clinical instruction are obvious. Besides the extensive information which it imparts to the student, it forms the habits of the future practitioner, and protects him against many errors, which he can hardly avoid, if he proceeds at once from the lecture-room, or even from walking a hospital, to his own practice, from passive intuition to active pursuits.

Although all the clinical cases are under the constant superintendence of the professor, and, properly speaking, entirely treated by himself, the student always feels a superior interest in those which, more apparently than really, are placed under his care; it is, therefore, one of the constant objects of the professor to cherish this interest. The mistakes of the young practitioner are accordingly corrected with as much forbearance as possible; his opinion as to the state of the patient, and his proposals concerning the plan of cure, are not treated with open neglect, and the professor introduces his own plan of treatment, however different from that recommended by the pupil, by way of amendment, rather, than by flatly opposing his authority to the errors of inexperience. I am convinced, and every body who has had the benefit of a clinical education will concur with me, that the attention paid by the pupil to his own cases, is not a little increased by the pleasing idea, that he pursues for the first time his vocation as a practitioner. It depends upon the ingenuity of the professor to carry into effect his own plan of treatment, without checking the zealous interest of the student. These attentions will not appear trifling to him who considers the various mistakes and difficulties, to which the young practitioner is liable, when he first enters his practical career, and which, if pointed out and disclosed in an incautious manner, may easily deter him from pursuing it, and fill him with distrust and despair of success.

Exactness and accuracy in examinations are further most rigidly insisted upon, as the more experienced practitioner but too soon and too frequently relaxes in them. Thus, if the strictness of the clinical professor cannot perfectly guard the future practitioner against this fault, his admonitions will at least prevail upon him to persevere in accurate examinations at the beginning of his practice. Next to accuracy, a strict order and consistency in the manner of examining, is always attended to, which is the more necessary, as the first examinations cannot be otherwise than vague, incoherent and precipitate. The special order in which the examination ought to proceed, will, of course, be very different; sometimes the stages of the diseases affording the best guide, in other cases the symptoms being more properly investigated, according to the anatomical arrangements; as for instance, first, those arising from the vascular system, the pulse, pulsation of the heart, other pulsations, heat, fevers, congestions, hæmorrhages, &c., then those belonging to the nervous system, &c. &c.; in other cases, again, it is evident, at first sight, from what organ all the symptoms proceed, then the state and function of this may be first examined, and afterwards the condition of such organs and functions as are most connected with it, &c.

One of the greatest advantages of the clinic, consists, undoubtedly, in the student's performing all his duties under the superintendence of an experienced physician, from whom he acquires the difficult art of examining, and the habit of exercising his judgment in forming diagnoses, and of founding his plan of treatment on indications. The student not only prescribes the remedies, but details the manner in which they are to be prepared, and explains his views as to their action; he reports the cases under his care, and accustoms himself to keep an accurate journal of them; in short, he begins to act in his professional capacity, but always under the eye of a skilful practitioner, who has the best opportunity not only of guarding him against many errors, common to young practitioners, who have not had the benefit of clinical instruction, but of cautioning him against the usual fault of the experienced, that of following an empirical routine. It may be asserted, that the pupil who has devoted his whole attention to his clinical studies, has important advantages over those who have not enjoyed this part of a medical education, for the deficiency of which, even considerable experience cannot make amends. How much time is lost, before the practioner who is left entirely to himself learns the art of examining, before he begins duly to value the result of it, and to distinguish between similar symptoms? Does he not pass many years of practice in gaining, by his own observation, that knowledge, which the clinical student acquires during the course of his studies? Such are the advantages of the clinic; and it may be readily imagined, that a patient will prefer the young practitioner, who has attended it, to one who has visited the hospitals as a spectator only.

It is evident also, that the comparative view of the various cases, of their different stages, &c., must furnish the clinical professor with a never-failing source of interesting and instructive remarks on every branch of medical science: the course of

the examination, the external appearance of the patient, &c., will suggest to the lecturer many observations, which might have been omitted, if the history of the case had been delivered in a lecture-room, and which, being made at the patient's bed-side, will be much more deeply impressed on the mind of the student, who is, moreover, early induced to reflect upon the cases before him, to resort to analogy; in short, to combine observation with reflection. This I consider a very important object of the clinical exercises, and it is the more indispensable, as the practitioner is but too much inclined to confine himself to bare observation and experience, unaided by reflection.

Another great advantage is, that the professor combines, with the clinical treatment of the cases, and with his remarks upon them, occasional examinations of the student on such subjects as they may suggest. He enters into the most minute details, and tries the student's acquirements in all branches of medical knowledge. In short, he embraces every opportunity of making him conversant with all the various and manifold duties of his profession.

Besides these exercises in the clinical wards, the students are allowed to attend the practice of the clinical professor in the hospital; it appears, however, that the observation of such a great number of cases, will be useful to those students only, who have already, for some time, partaken of the instruction in the special clinic.

All that has been said about the medical clinic, of course applies to the surgical and obstetrical; we shall examine the peculiarities of these two species of clinic, after having detailed the manner in which surgery and midwifery are studied.

The lectures on *surgery* are generally delivered in an annual course, which is invariably attended by every medical student. To the operative part of it, a course of operations on the dead body is added. A concise account is given of the history of each operation, with the description of the various methods of performing it, and the instruments employed are exhibited to the students. The operation is then performed by the professor, and after him by the pupils. I need hardly mention, that this course commences with the elements of operative surgery, and the easier operations, with the manner of holding the knife, &c., with simple incisions, the application of the various sorts of sutures, of ligatures, &c., and then proceeds to the more complicated operations. This order is, of course, often disturbed by the subject being more or less fit for the one or the other operation. Every operation is several times performed by the same student, in order to exercise his manual dexterity as much as possible. Besides this course on surgery, its various branches, as ophthalmiatric, the art of bandaging, &c., are separately taught. The lectures on the latter branch are illustrated by exercises on persons hired for that purpose. All these lectures are attended several times by those who intend to practise surgery especially.

It is clear that in the *surgical clinic* the principal attention is paid to the external appearances, these being generally more important than the verbal examination, for the diagnosis. In some surgical clinics it is even made a rule, that in those cases, where sight and touch are sufficient to distinguish their nature, as in various diseases of the eye, ulcers, &c., the student is not allowed to make a verbal examination previous to giving his diagnosis. This practice, which is constantly adopted by Rust, in the Charité of Berlin, certainly tends best to impress the diagnostical appearances on the mind of the student, and accustoms him to judge especially by sight and touch. The necessary operations are performed by the professor in the presence of the class. Those pupils who have for a longer period frequented the clinical exercises, and the operative course on surgery, are intrusted with the performance of the easier operations; in some clinics, as in that of Gräfe, of Berlin, almost all the operations are performed by the older pupils. The professor assists the young operator, or stands at his side and watches him closely, in order to prevent any accident. Moreover, it is obvious that important operations are performed by those pupils only, whose skill and knowledge entitles them to such a proof of confidence from the professor. I attended Gräfe's surgical clinic during about six months, and never witnessed any ill result from the most complicated operations performed by the pupils of this excellent institution.

*Midwifery* is taught, in a half-yearly course, from four to six times a week. These lectures, which are attended by all medical students, are followed by an operative course on the figure, and the *obstetrical clinic*, which is conducted in the following manner:—

The pregnant woman is admitted into the lying-in institution, from eight to fourteen days previous to the probable time of her delivery; she undergoes a careful examination, the result of which is registered in the comparative tables of the establishment. During the time before her delivery she affords the students the opportunity of making *examinations per vaginam*. Every woman is examined twice a week by about eight pupils, who subsequently must give an accurate account of the state of the genitals and the pelvis, of the child's position, and of the probable time when parturition

will take place, &c. The professor then makes an examination himself, in order to ascertain the correctness or incorrectness of the pupils' statement. The great importance of these examinations clearly appears from the undeniable fact, that the student, who for the first time examines a pregnant woman, feels and distinguishes scarcely any thing at all, and that very frequent exercise only can lead him to certainty. It is surprising that in any country persons should be admitted to the practice of midwifery, who are almost entirely destitute of this most indispensable part of medical education, and that ill judged delicacy should be the cause of such a lamentable deficiency. The students of the obstetrical clinic are divided into auscultants and practicants; those belonging to the latter class must have visited the clinic as auscultants for six months. Every birth is attended by two students of each class. When the symptoms of approaching delivery appear, the woman in labour is brought into the parturient's ward, and the four students whose turn it is, are immediately sent for. From that moment they do not leave the parturient till the birth is completed. During the whole process of delivery, the two practitioners afford the necessary manual assistance, while the auscultants are only allowed to examine at proper intervals. From time to time the professor, who always lives in the hospital, or a confidential assistant, visits the parturients' ward, in order to be informed of every circumstance respecting the labour and its management by the students. Should any irregularity take place, the students immediately request his assistance. During all this time the clinical instruction is continued, and the professor always first hears the opinion of the student before he gives his own. The easier operations (in some obstetrical clinics even the application of the forceps and turning) are performed by the students in the presence of the professor. In those clinics where the professor performs the operations himself, the other students are sent for in order to witness it.

At the next visit, which like that in the medical clinic is made daily by the professor and his pupils, the practicant, who has had the management of the labour, gives an accurate report of its whole process, from its first beginning to the expulsion of the placenta. The clinical treatment then proceeds in the same manner as was shown in the description of the medical clinic.

We can assert, that the public is so little prejudiced against those lying-in hospitals, which serve as obstetrical schools, that during the space of a year the student has always numerous cases to attend.

*A course on mental diseases, and their treatment*, is given in almost every university; visits to the lunatic asylum, and sometimes the clinical treatment of a certain number of cases, serve to illustrate these lectures.

We cannot omit mentioning, that the interest which the pupil attaches to the clinic is not a little increased by the annual publication of clinical reports. To this custom, which very generally prevails at the German universities, the medical public is moreover indebted for the origin of such excellent practical works, as those of Stoll, Frank, Reil, &c., and of the more modern but not less distinguished productions of Clarus, Puchelt, &c.

An adequate number of those students who have duly attended the clinics, are admitted to the *policlinics*. In these, poor patients are treated by students, under the superintendence of an experienced and publicly appointed physician. The patients are distributed amongst the students, who, according to the greater or less importance of the case, are directed to visit them once a day or oftener. At a certain hour daily, the students meet the managing physician, and give an accurate report of their cases and the treatment adopted. The prescriptions and other orders are submitted to the physician, who confirms or changes them according to his views, which he invariably explains to the students. New cases are always visited by the physician himself, in order to ascertain whether the diagnosis of the student is correct. If the young practitioner has the least doubt of his own sufficiency, and if it is a dangerous case, the occasional attendance of the managing physician is requested.

It naturally results from the medical police of Germany, that much more attention is paid to the study of *forensic medicine*, than in this country; the numerous and excellent works published in Germany on this interesting branch of medicine, strongly confirm our assertion. The half yearly lectures are attended, not only by all medical students, but also by the greater part of the students at law. Practical exercises are added, which consist in judicial post-mortem examinations, in reporting medical visa reperta, and their results in point of law, &c.

To these studies of the medical student at the German universities, the *examinations* which he has to undergo previously to his being admitted to practice, are proportioned. They are calculated to enable the examiners to determine, whether the candidate is competent to enter on his practical career or not; and the former consider due strictness so much their duty towards the public, that the rejection of a candidate is by no means of unfrequent occurrence.

The manner in which the examinations

are carried on in the universities of Leipzig and Berlin, is as follows:—

At Leipzig, the student usually, after having studied two years, applies to be admitted to the first examination. For this purpose, he must produce certificates from the professors, of his having attended the lectures on natural philosophy, chemistry, botany, anatomy, physiology, general pathology, and of having dissected. The dean of the medical faculty then gives him three aphorisms of Hippocrates, which he must comment on in Latin. He is then *for four hours examined in Latin, on the above-mentioned branches.*

On his applying to be admitted to the second examination, (examen pro praxi,) certificates are required of his having attended the lectures on nosology, materia medica, therapeutics, midwifery, surgery, and the medical and surgical clinics, with testimonies of the respective professors, that they consider him worthy to be admitted to the examination, *which is also in Latin, and lasts four hours.* Should the candidate not have studied at the university of Leipzig, he must, during four weeks, take charge of two patients in each clinic, under the superintendence of the clinical professors.

These examinations apply to every candidate for the admission to practice, without any regard to the individual branch which he has chosen. If he intends to practise midwifery, he has to undergo *an obstetrical examination, in which he must perform a few operations on the figure.* After this ordeal, the candidate is at liberty to take his degree of doctor medicinæ et chirurgiæ, the ceremony of which we omit detailing.

At the university of Berlin, the examinations are still more complicated. No certificates are required from the professors, and all depends upon the result of the examinations.

1. *Extemporale Anatomicum.*—The candidate takes from an urn a ticket bearing the name of some organ. The preparation is then given to him, and after ten minutes he must demonstrate it.

2. *Extemporale Chirurgicum.*—The same takes place with regard to a surgical operation, of which the candidate must detail the indications, contra-indications, the instruments, and various methods of performing it.

3. *Curnus Anatomicus et Chirurgicus.*—The candidate is asked to demonstrate the situs viscerum of one of the three cavities, and then to perform an operation on the dead body.

4. The candidate conducts the *treatment of two surgical* patients under the superintendence of the clinical professor. He keeps an accurate journal, containing the history of each case, the present state, diagnosis, ætiology, prognosis, and the treatment. This is continued for a month, at the end of which the candidate is required to give the diagnosis of ten or twelve cases, and then to show his skill in the application of bandages.

5. The same takes place with *two medical cases* for six weeks. The journal, and the conversation at the bed-side, are in Latin.

6. The last examination (examen rigorum) is on *all branches of medicine.*

7. If the candidate intends to practise midwifery, he must produce certificates of his having attended the obstetrical clinic, and afforded his assistance to two or more parturient women. After having written a short treatise on some obstetrical subject, he undergoes an *examination of three hours on midwifery*, obstetrical operations, on the diseases of women and children, and performs some manipulations on the figure.

In conclusion, the following may be considered as the principal advantages of the plan of medical education in the German universities:—

1. Universality of classical education.

2. The period of four years being constantly allotted for the study of medicine.

3. The non-division of the study of the three branches, and the proper division of their practice.

4. The greater facility afforded to the study of anatomy.

5. The more general study of the auxiliary sciences; as natural history, botany, &c., and the liberality by which the students are supplied with the best means of pursuing these studies.

6. The medical, surgical, and obstetrical clinics, and the extent to which the hospitals serve as medical schools.

7. The poli-clinics.

8. The course of operations on the dead body.

9. The greater strictness of the examinations previous to the admission to practice.

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## ABUSES AT THE WESTMINSTER HOSPITAL.

*To the Editor of* THE LANCET.

SIR,—On looking into the 218th Number of THE LANCET, I perceived a letter, written by one of the pupils of the Westminster Hospital, on abuses existing in that establishment, wherein it is stated that all the surgeons, with the exception of Mr. Guthrie, are very negligent in the performance of their duty. That the abuses stated by the writer do exist, I can assure you as a positive fact, and which I have myself

frequently experienced, to my very great detriment; but as it is of some importance that a candid and impartial statement should go forth to the public, I am desirous to correct a few inaccuracies which have been stated, whether designedly or inadvertently I do not pretend to say, but I am inclined to attribute it to the latter circumstance. The author of the letter alluded to, has excluded Mr. Guthrie from participating in the gross negligence which he attributes to the other surgeons. Now, upon what grounds this exclusion has been made, I confess myself quite incompetent to understand, for I have found Mr. Guthrie equally negligent, if not more so, and particularly since he has been elected one of the surgeons; and I may also state, that he did not come at all to the Hospital last Saturday week. Shortly after Mr. Guthrie's arrival at the Hospital last Saturday, he called the pupils into the theatre, and having alluded to the letter which appeared in THE LANCET, he commented on the impropriety of appealing to public opinion, when an opportunity for personal interview could be obtained, thereby showing a degree of subordination, which should subsist between the pupils and their teachers. He declared, that as THE LANCET was not read by the other surgeons of that Hospital, they would know nothing of the letter, and that he would feel himself exonerated from adverting to it, in order to redress the grievances complained of, till some of the students would have the candour to come forward and state, that the instruction imparted was not sufficient to acquire the information necessary for examination, as such a mode of procedure obliged them to sacrifice some of their lectures. I beg leave to inform Mr. Guthrie, that as the surgeons have been the aggressors in this transaction, the pupils have a right to adopt whatever mode of procedure they may consider most likely to obtain their just rights; and as Mr. Guthrie is now aware of the grievances complained of, it is a duty he owes to the pupils, to have them redressed. In conclusion, I may state, that if the surgeons continue to be negligent in the performance of their duty, the pupils will appeal again and again to the Governors of the Hospital, and to the public at large; and although the pupils may not obtain the desired object, they will confer a great favour on those gentlemen who come up to town to enter to the Hospitals, by warning them of the infamous manner in which the surgical department of this Hospital is attended to.

I remain, Sir,
Your obedient Servant,
AMICUS JUSTITIÆ.

Nov. 5th, 1827.

## ROYAL INFIRMARY, EDINBURGH.

*"Letters from the Army, Navy, and East Indis Medical Boards, to Dr. Ballingall."*

MODERN times have witnessed the institution of a variety of new lectureships, that profound English maxim, "a division of labour," having been alike extended to the cultivation of medicine, as to the improvement of our manufactures. The principle has been acted upon, as well by the heavy machinery of universities, as by the portable establishments of itinerant professors, who philosophically traverse the empire, to teach its studious inhabitants a whole science in half a dozen of discourses. The imitation of the great secret of our commercial superiority, has not been confined to the more useful parts of the system; for, along with the several parts of the human body, and the diseases to which they are subject, being committed to the investigation of individual talent, the collective wisdom of our colleges, forgetful of the salutary effects of competition and free-trade, have thrown a sympathetic glance over the policies of Mr. Vansittart's tariffs, and imposed protecting duties for the encouragement of the infant productions of our didactic operatives. In many instances, perhaps, advantages have been derived to the public, from the exclusive attention of individuals to particular branches of the healing art; though it may be observed generally, that the greatest discoveries have been made by men who taught, practised, and held the unity of the science. As it expanded, however, into its present formidable dimensions, it became necessary, or at least convenient, to intrust the tuition of its parts to separate hands; and no fault could be found with the practice, if the experiment were left to stand or fall by its utility or worthlessness. Midwifery, medical jurisprudence, physiology, and some other departments of the science, have fully justified the propriety of treating them in separate courses of lectures, by the remuneration which they voluntarily secure their teachers; but like most good things, the sub-division of medicine has not only been carried to excess, but the abuse has been committed for purposes totally foreign to its advancement. The University of Edinburgh, under the pretence of keeping pace with the progress of the age, and under the sanction of the useful tendency of divided exertion, has, in particular, dealt most extensively in this vice of medical schism and its profitable consequences. Suspecting, as well it might, the probability of its newly-created lectureships being sufficiently emolumentary to the proprietors, or

rather convinced by experience, that they were not so, the Senatus Academicus, with that diplomatic tact which characterises all its proceedings, contrived a very ingenious device for rendering these neglected professorships productive to the professors. From six tickets, formerly necessary for graduation, that sagacious council has raised the number, by positive law, to eight, and from eight to ten by indirect arrangement; so that, while the student is left the appearance of a choice, he is in reality compelled to attend at least two out of the five remaining courses of lectures, which have been from time to time instituted, but some of which would not repay the deliverers for the expense of publishing a prospectus, if left to the patronage of their own merits. When custom has habituated the rising generation of surgeons and doctors to this species of exaction, and compulsion ceases to excite surprise, it is not at all improbable, judging from experience and the tendency of self-interest, to despise all distinctions of right and wrong; but these five courses, which are sufficiently well known, without being named, will be made indispensable to the taking a degree of doctor of medicine in our University. The great misfortune of these financial schisms for the improvement of medical education, is that, however plausibly they may be disposed for public inspection, the eye of any attentive observer must immediately detect their ultimate object through their inconsistency:—

You may break, you may ruin, the vase if you will,
But the scent of the roses will hang round it still.

Thus, in permitting the student to attend but two out of these five different courses of lectures, it must be supposed, that the persons by whom this privilege of selection was granted, must, from the nature of the arrangement, have considered each of these lectures equally valuable with the others, and that the student could not consequently err in his choice; but if they are all alike useful and necessary, why, instead of two, are not the whole five included in the compulsory enactment? If medical jurisprudence and military surgery be wholesome and indispensable accomplishments to a practitioner, surely he should not be allowed by the spiritual guides of his education, to avoid such valuable acquisitions, and to substitute in their place, two courses of natural history and clinical surgery. Yet such is the fatal gift of free-will to the student, by the providence of the Senatus Academicus, that though he may be destined to figure in the ambulance or the cock-pit, he is endowed with the deleterious power of accomplishing his own professional perdition; and instead of preparing himself for his future duties in life, by attending Dr. Ballingall, the lost son of Esculapius may turn into the dissecting-room, and idle away his precious hours at a three months course of practical anatomy! The inconsistency can only be explained by the observation already made, that the University finding these lectureships not sufficiently profitable to the proprietors, and pressed by them for the imposition of protecting duties, the Senatus compounded with the whole five, thus giving each a choice of existence. Dr. Ballingall not well satisfied with a chance market for his intellectual wares, has hit on an extremely ingenious expedient of securing a steady sale for them; and though not absolutely amounting to compulsion on the purchasers, it leaves them pretty much the traveller's alternative, when ordered to "die or deliver" by a foot-pad. In crossing the hall of the Royal Infirmary a few days back, my attention was attracted by a conspicuous placard elevated above its modest companions, and stopping to examine its lofty pretensions, I found it to be the syllabus of a course of lectures on military surgery by this gentleman. On reading over the heads of these lectures, purporting to reveal the history of military surgery! the examination of recruits! the detection of feigned diseases! the treatment of ulcers on soldiers' legs! the management of complaints incidental to warfare by land or flood, I stumbled on the words, James M'Gregor; and not conceiving at the moment what connexion could exist between a course of lectures in Edinburgh and that gentleman in London, I really thought the name might have been intended to designate some Highland malady, discovered by the learned professor, and intended for elucidation during the ensuing winter. But no, I was quite mistaken: James M'Gregor was not a pathological discovery, but the signature of an answer from the gentleman of that name, to a letter from Dr. Ballingall, and stating in a few lines, that it was only of late that he had been made acquainted with the merits of his lectures on military surgery; and that, in the next alteration of the *curriculum* of the army Medical Board, they should not be forgotten, which of course means, that they will be made indispensable qualifications for appointments in the service. I could make no more mistakes about names, so I read on and found another, W. Waller Clifton, attached to a similar production, stating, that an attendance on these lectures would be considered additional recommendation to candidates for the navy department; and to crown the whole, I found the names of eight or ten superannuated, half-pay, East India Company medical officers, who, I

suppose, attended Dr. Ballingall's lectures *gratis*, appended to a still more glowing panegyric of the excellence of the Doctor's discourses on examining recruits. The publication of these letters furnishes a satisfactory explanation of the manner in which the qualifications for official situations in the army and navy service, are arranged by the constituted authorities. A practitioner has served some time abroad, examining recruits, and treating ulcers on soldiers' legs; he returns home, elaborates a medical romance out of his military adventures, and is appointed to recite it under the great sanction of a university professor; but finding that an audience will not voluntarily attend his prelections, he turns the tables on their tasteless obstinacy, and immediately writes to his veteran companions to arm in his cause; their sympathies instantly awaken in behalf of his neglected merits, "auld lang syne," and the grog of other days, smother all "compunctuous visitings," on the justice of the appeal of an old brother officer, and letters, equivalent in effect to martial law, are written and published, for the purpose of compelling candidates for office to attend his lectures, under penalty of forfeiting all claims to promotion at the several medical boards. Dr. Ballingall may indeed succeed in intimidating a few pupils into obedience by these paltry threats and recommendations; but to the discerning part of the profession, they afford the most incontestible evidence of the total worthlessness of his lectures, for were they worth attending, such measures would be unnecessary to ensure them support. There is, in fact, no foundation in science or reason, for the existence of the chair from which he derives his empty, but high-sounding title. The diseases to which soldiers are subject, are those which are common to the rest of mankind, and they consequently require no other treatment than that which flows from a knowledge of the common principles of the healing art, for surely the carriage of a musket or a knapsack, does not so far alter the physical constitution of man, that the same system of surgery which heals a burgher, may not be so far modified, by individual skill, as to relieve the maladies of a grenadier. But, even admitting that there may be morbid peculiarities incident to a military life, and that some general observations may be necessary for the management of troops, are not our ordinary professors of surgery competent to the delivery of such instructions; do they not almost invariably, in their surgical lectures, give such remarks, when the subject suggests such digressions; and is it not a matter of the most perfect indifference, how or where, the candidate for a situation in the army acquires this information, provided he proves himself possessed of it by an examination? I would be glad to know from Sir James M'Gregor, or from Mr. Waller Clifton, or from the Bombay gentry, who have warranted the excellence of Dr. Ballingall's lectures in the style of a quack medicine, upon what principles of equity or reason they would compel a medical student to set out on a pilgrimage to Edinburgh to acquire information, which in all probability he had learned at home, in Dublin or London? Yet we have four colleges of surgeons, half a dozen of universities, and I know not how many apothecaries' companies, who permit, without a shadow of resistance, their licentiates and graduates to be re-examined by army and navy medical boards, and their pockets picked by the preceding and contemptible charlatanry.

SCOTUS.

Edinburgh, Nov. 3, 1827.

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## OBSERVATIONS ON DISLOCATIONS OF THE THUMB.

*By* HENRY PENNECK, M.D. Penzance.

I HAVE observed in one of your late Numbers, (vol. xii. p. 618.) that M. Lisfranc presented a preparation to the Royal Academy of Paris, in which there was observed an old dislocation of the first phalanx of the thumb, on the posterior surface of the bone of the metacarpus.

I am induced to remark, that though such great improvements have been made in surgery in our own times, the common treatment of dislocations of this kind still continues entirely unsatisfactory. This will be apparent to any one who will examine the latest and best authorities on the subject. To lose the service of so useful a member as the thumb, by abandoning the case, seems a trifle when compared with the chance of having the limb torn away, an accident which it would appear has happened, and if the power of the pulley should be applied to so small a part by unskilful hands, is not unlikely to happen again. I shall at first confine my remarks to dislocations of the second phalanx. The method commonly proposed for the reduction is to bend the dislocated bone over the first phalanx as its fulcrum even without the power of making a sufficient previous extension. But, although the phalanx may be displaced in four directions, this method is only applicable to one case, and even in that it must be attended with bad effects; for by compelling the dislocated bone to make a large sweep, the capsular ligament must be put greatly on the stretch; and in a case of a

compound dislocation, which I am about to mention, such a practice might have so far increased the rent in the capsular ligament and integuments as to have rendered the amputation of the phalanx necessary.

Above forty years since, when an apprentice, I was sent to William Nicholls, a young farmer, residing at Boskennan, six miles from Penzance, who carrying a heavy basket was thrown from his horse. I found his left hand severely bruised, the *second* phalanx of his thumb dislocated on the back of the first, and the joint laid open by a wound in the integuments and capsular ligament. After vain attempts to make an extension which the shortness of the part prevented; I hit on the following method, which fully answered my expectation, and I have since practised it with complete success. I took a piece of bleeding-tape and tied the middle part of it round the *first* phalanx, *letting it cover a part of the end of the dislocated bone*, and having the knot on the opposite side, I twisted both parts round my hand, and directing an assistant to support the patient's hand and fix the thumb, I made the extension and found the dislocated phalanx to pass readily into its place, when the tape slipped off and the operation was completed. I dressed the part superficially, which was soon healed; I do not recollect the after treatment. He resides at Plymouth; but is at present at Penzance. I have seen him to-day, examined the phalanx, which is well in its place, and though the joint is stiff, he has a useful thumb to this time. I think some other cases came under my care, of which I neglected to keep notes; but in January, 1809, Mr. Carne, of the Penzance Bank, was thrown from his horse, and dislocated the second phalanx of his left thumb. I saw him as soon as he returned home, there was no wound, and I reduced it by the use of the tape in an instant; by the common treatment it soon got well, and is as perfect as ever. I must observe, that if it had been a dislocation of the first phalanx, I should have applied the tape on the metacarpal bone. This method appears to me far better than pressing on the dislocated bone by the fingers, or bending it by the thumb; because by the tape the force is always applied in the right direction, and it carries the displaced bone straight on clear of the first phalanx; besides, it never distresses the joint by making a greater extension than is required to pass the bone into its proper place; whereas the other method of pressing on the phalanx by the fingers has a tendency to fix it on the back of the first phalanx, and to retard the reduction.

About seven years since I slipped off a hedge, and pitching my left hand on the ground, I dislocated laterally the second phalanx of my middle finger towards the little finger; as soon as I got home I procured a piece of bleeding-tape, had the middle of it tied round the first phalanx immediately in contact with the dislocation, and having spread out the tape so as *in part* to cover the end of the dislocated bone, the knot being made on the *opposite* side, I directed a person to twist the ends round his hand, and to make an extension whilst I resisted him, and with my right hand supported the part, and gave direction to the finger, which was instantly reduced, and with scarcely any pain. The part quickly got well, and is as perfect as ever.

In November, 1825, I was called to Mr. William Hawes, of the Star Inn in this town, who had dislocated laterally, towards the little finger, the ring finger of his right hand. I immediately reduced it in the same manner by the use of the tape, and it continues as well as ever; when the dislocated part is much bent the knot may be inconvenient if tied immediately opposite, unless the parts of the tape are kept sufficiently asunder by the introduction of two fingers, which, while the extension is making, will allow the dislocated part to rise up between them.

After the four cases which I have been enabled to state, I can with confidence recommended *this method* to the profession as *certain to reduce every case of dislocated thumbs, fingers or toes, in whatever direction the phalanx* may be *displaced*, with the *greatest facility*, and with *very little pain* to the patient.

I beg leave to suggest that the same method which I have used in reducing dislocations of the smaller, appears likely to be of use in assisting in the reduction of dislocations of the larger, joints. It may be advantageously applied to dislocations of the wrists, and to those of the knee-joint, in addition to the usual mode of making an extension; and even in some cases of dislocations of the thigh bone it seems very possible to use it with advantage, in addition to the methods so scientifically recommended by Sir Astley Cooper.

If we take a four-tailed bandage, and to prevent it from slipping apply two of the straps round the body under the spine of the ilium, and above the head of the dislocated thigh-bone, and cross them on the opposite trochanter, to be held by assistants, and bring down the other straps round the hip and fasten them to each other between the thigh and the pudendum; a pulley may be placed on the thigh, and whilst an extension is making, as soon as the strap can be brought to act on the trochanter of the dislocated bone, the pulley may be hauled in the proper direction, which will assist in bringing the head of the thigh-bone to the acetabulum.

I would also draw the attention of the

profession to compression of the muscles as a mode of taking off or lessening their resistance to extension in cases of dislocation. It appears to me that the muscular fibre must always increase in thickness in proportion as it shortens in length. If we apply the hand on the biceps flexor cubiti, when the forearm is forcibly raised, or on the masseter when we strongly act with the jaw, we shall be sensible of the effect I have mentioned, and which I believe to be universal. When therefore a dislocation is about to be reduced, the reduction will be greatly facilitated by first placing the limb in a state of semiflexion, and taking off the action of the muscles as much as possible by the *will*; and then by compressing the muscles by means of a roller firmly applied on the limb we are about to extend, and by another roller, or other means, on the part from which the extension is about to be made, so that all the flexors and extensors, whether they arise from the first and are inserted into the latter, or whether they arise from the latter and are inserted into the former, by being prevented from increasing in thickness, may also be prevented from shortening, and consequently from opposing the reduction of the dislocation.

Penzance, Oct. 26th.

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### ON UTERINE HÆMORRHAGE.

*By* GEORGE NESSE HILL, *Esq. Surgeon, Chester.*

NEARLY half a century ago I commenced practising as an accoucheur, and one of the first lessons taught me was, to devote constant attention to three circumstances in every natural labour, namely, when the child's head was pressing firmly against the perineum, (and especially in first labours,) not to use counter-pressure with the slightest violence, but merely to afford moderate support with the palm of the hand; the injurious practice of introducing a finger between the head and the perineum to slip, and but too often tear the latter over, the former being so common a practice with the old midwives, that my instructor said he could always tell, when called to a female in a second labour, whether a male or female practitioner had attended on the first. The second circumstance was, that if opportunity occurred, to advise the pregnant female to prepare a flannel under coat, with a firm band at the top, of such a breadth as would, when drawn tight and secured with suitable tapes behind, cover the whole abdomen from a little above the umbilicus to just *above*, not on the pubes, the tapes so fixed as to admit of tightening or slackening, as occasion required. When suddenly called, or where no such bandage had been provided, the readiest substitute is the spread hands of an attendant, properly placed over the uterus, at the moment of the exit of the child; and where, in defiance of these precautionary measures, the hæmorrhage occurred suddenly and profusely, a firm unyielding compress was introduced beneath the bandage, or hands, till it was checked, the bandage and compress being tightened in proportion to the urgency of the case and the feelings of the sufferer, especial care being taken that the pressure be as equally applied as possible. For want of attention in this respect, it has been imagined that the hour-glass contraction of the uterus has been promoted.* The third circumstance demanding attention was to be directed to the child, making it an indispensable rule never to divide the funis until all pulsation in it had entirely ceased; for want of attention to this rule many fine children have been lost, owing to the extreme ignorance of the females in attendance before the proper assistance could be had, imagining that the moment a child is born it should be separated from its mother. Many years after this injunction, I was called too late to a poor countrywoman, when, upon entering the room, I saw a stout-looking child lying dead on the bed, without a ligature on the funis; the placenta yet undelivered. On finding the cut funis, I perceived it had been most carefully tied!!

By an habitual attention to these long-established rules of my excellent preceptor, I have never lost a patient by hæmorrhage, or witnessed more than a very few cases of extreme danger.

You will, Mr. Editor, not be surprised that I should smile at the eagerness manifested by such a number of respectable claimants to the valuable discovery of mechanical pressure of the uterus, on the removal of its contents; of their various pretensions, or the due regulation of their several claims, it would ill become me to say one word, I only wish to show that these claims have no just pretensions to novelty or originality. Dr. W. Dennison, in his valuable lectures on midwifery, delivered at the London Hospital in 1784-5, advocates the same plan of proceeding in all labours, so far as regards uterine pressure, as what I have stated, with this only difference, he recommends a strap bandage to be fixed to the upper part of the under flannel coat.

Chester, 24th October, 1827.

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* The bandage has another good property; it tends, when worn for the lying-in month, to prevent the pendulous belly, so often a cause of protracted labour, and so unsightly to females who have ceased to be mothers.

WINCHESTER COUNTY HOSPITAL.

*To the Editor of* THE LANCET.

SIR,—As certificates of provincial hospital practice are now received by the London College of Surgeons, (though at present under impracticable limitations,) it has appeared to me proper that the medical world should know how unprofitably to the student the surgical practice of this Hospital is conducted by our senior surgeon, Mr. Mayo. This gentleman, whenever he comes to the Hospital at the ordinary time, that is, between ten a. m. and one in the afternoon, most frequently enters by the lower door of the Institution, (intended for and used by the patients, servants, &c.) in order to escape the observation of the pupils, which he could not do were he to enter by the front door. So great an aversion, apparently, has he when going round the Hospital to the company of the pupils, that he often *runs* from one ward to another, and shuts the door of the ward he has just entered in the faces of the young men following him, and this more particularly when he happens to have any interesting case under his care which requires dressing.—Very frequently is he to be seen at the Hospital before eight o'clock in the morning, whereas no other surgeon, except on emergencies, thinks of attending before ten. Some few weeks ago there was a patient in the house with ovarian dropsy, but who is now dead, whom he successively tapped three or four different times, before eight o'clock, a. m., in the presence of one or two of his own pupils only. But his ill judgment in this respect is, I am sorry to say, surpassed by his unjust predilection for one or two individuals; as an instance of the latter the following may be cited:—Not many days ago he used Weiss's speculum uteri on a patient in the venereal ward, who, from the ward she was in, was naturally supposed to have some venereal affections; the two other surgeons were, at his request, present, beside the house-surgeon, the junior hospital apprentice, and an apprentice of Mr. Wickham's. The senior hospital apprentice went into the ward, expecting to see the instrument used, but was immediately ordered out by Mr. Mayo.—Now, without adverting in any manner to the *right* that he, and, in point of fact, both the hospital apprentices (who pay their præmia in part to Mr. Mayo) have to witness *the whole* of his practice *in the Hospital*, was there not partiality shown in ordering the senior to leave the ward, when no objection had been previously made by him to the presence of the junior? and was justice administered towards his own apprentices in excluding them? Surely as he performs even the slightest operation, dressing, &c., in the Hospital *himself*, it would be but fair and just to let them see every thing he does. Fortunately for the interest of the pupils, the other two surgeons, though his juniors in office, do not imitate his example, but, on the contrary, their manners and conduct towards the pupils are, generally speaking, totally different. Sir, if you can spare a niche in your LANCET to contain this letter, you will not only make Mr. Mayo stare, but it will also be of great service in exposing (though, I fear, not in correcting) these abuses, and will confer an everlasting obligation on

Your most obedient servant,

WINTONENSIS.

October 24, 1827.

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## HOSPITAL OF SURGERY,

*Panton Square, St. James's.*

CASE OF SLOUGHING SYPHILITIC BUBOES, SHOWING THE ADVANTAGES OF THE "SOOTHING PLAN" OF TREATMENT.

J. R., ætat. 42, was received into the hospital a fortnight ago, for a syphilitic sore, situated on the prepuce, accompanied with two extensive, and very foul irregular cavities in the groins. The surface of each excavation, which extended to a great depth, was covered by a slough apparently of much thickness. Their edges were swollen, irregular and everted, and the surrounding integuments to a very considerable extent, were of a deep red colour, and highly painful. The sore on the prepuce was superficial and large, but had the appearance of the true Hunterian chancre. It yielded a small quantity of pus, and seemed to be healing. None of the inguinal glands in the neighbourhood of the ulcers were enlarged. From the inguinal sores he suffered constant and occasionally very acute pain. His general health was much affected. His pulse about 110, sharp—he complained of headach, nausea and thirst. His skin was dry and hot, and he exhibited all the common symptoms of febrile derangement, in a very marked degree.—He stated, that nine weeks ago he became affected with a chancre in the situation of the present sore on the prepuce, which, in a week after, was followed by

the appearance of the buboes. These were remarkably inflamed, and proceeded rapidly to suppuration, and three weeks after were discharged. He continued to work, and paid little attention to his complaints.—The sore on the penis had remained stationary, but the buboes, within the few days previous to his admission, had become remarkably painful, owing, as he admitted, to his free living. He had taken no medicine except an occasional purge, and had never been affected with any disease of his genital organs, previous to the occurence of the present—nor had he ever been salivated by mercury.

He was ordered to be bled to deliquium animi, to have a smart purgative, and a large dose of opium at bed-time.—Poultices and fomentations to the sores.—Low diet.

The morning after this treatment was enforced, the change in the appearance of the ulcers was striking; the surrounding inflammation had greatly disappeared, the pain was allayed, the sloughing seemed not to be extending, and the constitutional disturbance was very much dimished. The opium was continued nightly, with the same general regimen. He continued to improve; in a few days the sloughs were thrown off, and granulations appeared beneath. For about a week the ulcers diminished in size, and seemed to be healing, though slowly, but this improvement now ceased to go on, and they remained stationary.

The blue pill was at this time prescribed, four were taken in as many successive days, and the callous edges of the ulcers were freely pared off.—On the 5th, the sores looked ill, and next day had become inflamed; and although the mercury was immediately withdrawn, the inflammation proceeded rapidly to sloughing, and the inguinal excavations were speedily in as bad a state as on his admission.—He was once more bled to deliquium animi, and the large opiate again prescribed, and with marked benefit, for the sores have again assumed a healing appearance.

In this patient, who was of a singularly irritable and delicate habit of body, the employment of mercury produced a very sudden and pernicious effect, and the benefits of "the soothing plan of treatment," as it has been denominated by Mr. Lawrence, were well exemplified. This method of treatment has been employed in this hospital, more particularly for patients of an irritable constitution, in every variety of syphilitic disease, and has been attended with very considerable success.—In St. Bartholomew's Hospital, we believe it has received from Mr. Lawrence a very full trial.

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CASE OF EXTENSIVE SYPHILITIC AFFECTION OF THE LABIA AND ANUS.

Mrs. S——, ætat. 22.—Each labium is much swollen and inflamed. In its mucous membrane, and that of the nymphæ, are several very extensive ulcerations, with everted, irregular, and highly vascular edges. These ulcers have the appearance of the Hunterian chancre. The integuments of the perinæum are likewise in a very diseased state, being swollen, thickened, and of a livid colour, but not ulcerated, except in the immediate vicinity of the anus. Around the latter, and projecting from the rectum, are a great many cauliflower excrescences, of irregular shape and size, and of a spongy and very vascular structure. Besides these, there are seen several small tumours resembling in appearance piles, the whole forming a congeries of foreign bodies completely filling up the outlet of the great intestine. The skin in the vicinity of the anus is likewise much diseased, and at many places ulcerated and excoriated. The sphincter ani at one point seems to have been divided, as a wound still remains at the side of the rectum, which communicates with the cavity of the intestine.

Her general health has suffered considerably from the constant irritation and inflammation of the diseased soft parts, and she has consequently become weak and somewhat emaciated, but she has no symptoms of a constitutional venereal taint. Her throat is sound, and no where in her skin can there be discovered any trace of a syphilitic eruption.

She reports that for the last four years she has been troubled with piles to a very great extent; these induced the formation of an abscess, which, two years since, degenerated into a fistula; for the cure of which, an operation was, soon after, deemed advisable. The wound, however, consequent on this, did not heal, and soon after she was admitted into St. George's Hospital, where she remained eighteen weeks without receiving any benefit. Two months ago she became affected with a syphilitic sore, which was followed by many others. The perinæum soon became diseased, and the ulcerations and cauliflower excrescences growing from the anus gradually formed.

The case, which has been treated with small doses of a solution of oxymuriate of mercury, in conjunction with opium, exhibits an instance of extensive disease of the perinæum, anus and rectum, from their vicinity to the venereal sores in the vulva, which seems to have spread solely by contact. It is rather wonderful that a syphilitic affection of such extent should have existed so long without producing a single constitutional symptom.

CASE OF SUBCUTANEOUS NÆVUS MATERNUS OF THE LIP.

A healthy boy, about seven years of age, was brought to the hospital with nearly the whole of the upper lip in a very enlarged state. The swelling extended from the right angle of the mouth to within an inch of the left. The mucous membrane was projected outwards, and the disease reached up to the right ala nasi, which was pushed upwards.—The integuments were a little more vascular than natural, but very little, if at all, diseased, while the mucous membrane was perfectly healthy.

The cellular structure, which is situated between the skin and mucous membrane, was evidently the seat of disease. It was much thickened, and afforded a more solid and fleshy feel than when in a sound state.—The enlargement did not possess the slightest pulsation, but could by pressure be emptied of a portion of its contents. The coronay arteries were felt to be pulsating with remarkable vigour; but when the circulation in them was arrested by pressure, no change was produced on the size of the lip.

The disease, which was congenital, and had gradually increased in extent, had never been attended with any bleeding. It produced much inconvenience and deformity.

In this case it was proposed to attempt to remove the disease, which was almost entirely confined to the subcutaneous structure, by surrounding it with ligatures introduced through the mucous membrane, which would, if the operation succeeded, preserve the natural form and appearance of the lip externally. The boy, however, left the hospital, and has not since returned.

## GUY'S HOSPITAL.

CASE OF TETANUS FOLLOWING THE DIVISION OF CICATRICES, CONSEQUENT UPON A BURN.

The following case of tetanus, supervening the division of cicatrices of long standing, and the result of a severe burn, has excited much interest. The tetanic symptoms, it will be seen, came on three weeks after the performance of the operation, and at a period when the wound was granulating, and in a very healthy condition; the disease ran its course uncontrolled by the means employed, and proved fatal on the ninth day.

The patient, a spare female, 15 years of age, and of light complexion, was admitted into Mary's Ward on the 5th of September, under Mr. Bransby Cooper. She had been severely burned when about three years old, and in consequence there were contractions of the skin, both at the anterior and posterior fold of the axilla, which in some degree interfered with the motions of the arm. At a month after admission, an operation was performed by Mr. Cooper, which, in fact, consisted simply in the division of the parts. About three weeks afterwards, on the 14th of October, and when, as we before stated, the wound was in a healthy condition and healing fast, she complained of stiffness at the back of the neck, which she attributed to cold. On the following day, Monday the 15th, the stiffness had somewhat increased, and was attended with some pain, and on Tuesday the particular attention of the dresser was called to her; the bowels at this time were constipated, there was much rigidity of the muscles of the neck and those beneath the jaw, and the mouth could only be opened to a short distance. A purgative draught was prescribed to be taken every three hours, and a pill, composed of tartar emetic, opium, and calomel, ordered to be taken every six hours. In the evening a purgative enema was administered. On the following day, the 17th, the symptoms were further aggravated; the pulse was very rapid, and there was general spasm of the muscles. A warm bath was directed, and the antimony and opium continued, the calomel being omitted. Hemlock poultices were applied on the day previously, and these were continued.

On the 18th, the poor girl was in a most distressing condition, all the symptoms of tetanus existing in a high degree; the warm bath afforded slight relief. Half a drachm of laudanum was exhibited, which in some degree appeared to lessen the violence of the symptoms; subsequently the dose was repeated twice, without any manifest effect.

On the 19th and 20th, the poor girl continued in a most distressing state; the slightest excitement bringing on the most violent spasms of all the muscles of the body; the pulse was very rapid and skin moist, and these symptoms prevailed in a remarkable degree throughout the disease. Æther was now frequently exhibited, and on the 20th a turpentine enema was exhibited, the bowels not having been freely acted upon since the attack.

On the 21st, a blister was applied to the pit of the stomach; the symptoms, if possible, had increased in violence, and the poor creature was now incapable of taking either medicine or nutriment. She continued in this state throughout the following day, and until about eleven o'clock of Tuesday morning, the 23d, when she died, being perfectly sensible, as indeed she had been, throughout the entire progress of the disease.

The friends would not permit the body to be examined.

## THE LANCET.

*London, Saturday, November* 17, 1827.

We call the attention of our readers to an account of the system of medical education pursued in the German Universities, which has been transmitted to us by Dr. Kind, a German Physician resident in this metropolis. It is written with great perspicuity and intelligence, and will be read with interest at a moment when a reform of the scheme of education, which has so long disgraced the medical profession in this country, is called for with a voice too powerful to be successfully resisted by the oligarchy who are interested in maintaining existing abuses. We have not time to enter this week into a detailed examination of Dr. Kind's paper; but we may observe, in passing, that the German system of education, though upon the whole incomparably superior to the course of medical study prescribed in this country, is not altogether untainted with a leaven of absurdity, which pervades most of the ancient academical institutions throughout Europe. At Berlin an attempt seems to have been made to get rid of the system of certificates, and to make the admission of students to the practice of the medical profession entirely dependent on the result of their examination. In other universities, however, the candidate is compelled to produce certificates of his attendance on certain courses of lectures, at his examination. Now it is evident that the examination of the candidate for a medical degree, is either a sufficient test of his competency without such certificates, or it is not. If it be, of itself, a sufficient test of his competency, there can be no necessity for enforcing the production of certificates; if it be an insufficient test, the production of such certificate affords not the smallest additional security for the candidate's competency: for there is no instance, we presume, in which a professor ever refused to grant a certificate of attendance on lectures to a pupil who had paid for the privilege of attending them. In fact, where a professor's class is large, it is scarcely possible that he can be cognizant of the presence or absence of a particular pupil, and the certificate is evidence only of the fact of his having received a certain sum from a student who may or may not have attended the course.

As a proof of the superiority of the German system to our own, we need only refer to that part of Dr. Kind's communication which falls under the head of clinical instruction. Let the reader contrast the care and diligence with which the German professors watch over the progress of their pupils, and gradually initiate them into the practice of their profession at the bed side of the patient, with the manner in which most of our English professors perambulate the hospital wards with a score of breathless pupils at their tails. It will be seen that one class of German teachers, namely, the botanical professors, occasionally *walk the fields* with their pupils; a trait of simplicity which will probably afford as much amusement to our privileged professors, as the English scheme of walking the hospitals excites astonishment among our brethren of the continent. In justice to the German teachers, it must be admitted that they rarely undertake to impart knowledge which they have not themselves thoroughly acquired, and that they perform their duty with a conscientious zeal for the advancement of their pupils. We are the more disposed to render them this justice, because we are aware that there exist in this country many unfounded prejudices against German professors, and the German schools of philosophy. Germany has been represented as the hot-bed of empiricism and scepticism; and as the nurse of all manner of false pretenders to philosophy and

science. The manner in which the founders of the system of phrenology were assailed by an influential part of our periodical press, may be cited as an example of the spirit in which currency has been given to impressions unfavourable to the philosophers of Germany. Many parts of the system of Drs. Gall and Spurzheim were no doubt sufficiently vulnerable, and might even afford fair matter for ridicule; for we admit that ridicule may be legitimately employed as an auxiliary of reason in the detection and exposure of error. But it was not so much the system as the authors of it upon whom a writer, whose wit is generally found happily combined with reason on the side of truth, condescended on this occasion to pour forth all the phials of his sarcastic wrath. Drs. Gall and Spurzheim were held up to public scorn, as impudent impostors and interlopers in a field of science with which they were utterly unacquainted. Now, whatever may be the errors of the system of phrenology, the charge of ignorance made by the Edinburgh reviewers upon the authors of it was at any rate most unfair and unmerited. If physiologists know any thing of the anatomy and physiology of the brain, they are indebted for their knowledge to Drs. Gall and Spurzheim, whose great work on that subject contains a mine of valuable physiological observations, which, laying out of the question the soundness or fallacy of the conclusions deduced from them, may be explored with advantage by those who are most opposed to the peculiar views of the writers. We have been led further than we intended into this part of the subject; but shall return at an early opportunity to an examination of Dr. Kind's paper, and of the general question of medical education.

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Although the medical ranks equally high with the other liberal professions, yet its members, as a body, until lately, have not enjoyed what could be denominated a political existence. This extraordinary circumstance may, in a great measure, be accounted for by their almost unanimous exclusion from all offices of dignity, responsibility and wealth.

The church has its bishops, with dioceses of enormous revenues, and its thousands of fat rectors, with their rich rectories. The law has its chancellors, vice-chancellors, judges, attorneys and solicitors-general, colonial judges, and their subordinate-officers, masters in chancery, police-magistrates, commissioners of bankrupts, with many others, too numerous to mention. Such is the ample reward which awaits those who may distinguish themselves in the church or in the law; whilst, in medicine, the height of a man's ambition is, to be appointed either as physician or surgeon to a hospital, with a salary *of forty pounds* a year; or to receive a similar appointment at an infirmary or dispensary, without any salary at all. Thus situated, it is not surprising the mass of the public should view the profession of the law, and that of the church, with a more respectful eye than that of physic, because wealth and patronage are two prolific sources of deference.

When it is recollected, that in the House of Lords we have the Lord Chancellor, the Archbishop of Canterbury, with a host of ex-chancellors, lords who sprang from lawyers, and a dozen or so of bishops; who can consider it extraordinary that the pulpit and the bar should be protected with unceasing care. In the House of Commons, too, lawyers invariably possess great, we may almost say, unconstitutional influence; and if any office of importance become vacant, a lawyer is sure to have his foot on the step, before others are aware that a vacancy has occurred. Are then the public interests best guarded, by conferring on the members of the church and the law such vast dignity and wealth, to the contumacious neglect of the members of the medical pro-

fession?—We think not, and believe that this opinion will become general, when the subject shall have received that consideration and discussion, which its importance deserves. Surgeons and physicians are not even allowed to preside in establishments which are avowedly devoted to professional objects—thus the "Navy *Medical* Board" includes but *two members* of the medical profession, although consisting of seven persons. It is not insinuated that the duties of this establishment are inadequately executed, because we believe the fact to be otherwise; and merely advert to it as an instance of the indifference with which the interests of our profession are regarded at head-quarters; and to show, that medical men are not allowed to occupy even those offices that are avowedly medical.

But we are anxious to inquire whether the public welfare would not be best consulted if certain offices were filled *exclusively* by medical men, which are now almost exclusively filled by lawyers. That there are many such we cannot entertain a doubt, but on this occasion shall notice only one, viz. that of Coroner. It is unnecessary to trace the history of this office, or to inquire what was its ancient dignity; it is enough to show the manner in which its duties are executed at present. The *legal* knowledge required of the Coroner may be comprised in a nut-shell, and could be learned even by a dunce within an hour; what other qualification then does the office demand for the efficient discharge of the most important of the duties connected with it?—First-rate MEDICAL ACQUIREMENTS.

The ignorance of Coroners is proverbial, but their ignorance in medical matters is a scandal to the criminal justice of the country; unfortunately, this is not the worst part of the evil, as it frequently happens, that owing to the extreme stupidity of these men, in matters relating to disease, and the immediate causes of death, that many innocent persons are incarcerated in the loathsome dungeons of a jail, and finally placed at the bar of justice as criminals, when not a tittle of evidence ever existed, by which the charge could be substantiated; or if adduced for such a purpose, could only elicit a smile from the well informed. Thus an innocent man often undergoes undeserved punishment, and his character receives a stigma that he can never remove. There are many other evils which we shall advert to hereafter, and, in fact, continue to notice until we convince the public and parliament, that no individuals should be allowed to hold the office of coroner, without having received a first-rate medical education.

We have been induced to call public attention to the subject, on this occasion, in consequence of two curious inquests that have recently been held; one at DOVER, and another at SHELTON, in Staffordshire. The following are the particulars of the Dover affair:—

On Tuesday, Oct. 2, John Weston, ætat. 45, obtained a ticket for the Dover Dispensary, and complaining of some rheumatic affection, was bled by the apprentice; about four o'clock on the following morning, the arm (like poor Wheeler's) had become so much swollen from the tightness of the bandage, that he desired his wife to go for medical assistance. The dispensary assistant attended, loosened the bandage, and administered an *anodyne*; but things still growing worse, Mr. SANKEY, the *surgeon* of the Dispensary, with his two pupils, attended and performed *some* operation on the man's arm, and on Thursday morning at four o'clock the poor fellow expired. The Dispensary Committee being dissatisfied, an inquest was held, Mr. Sankey at the same time stating, that he courted inquiry; at this Inquest, only Mr. Sankey and his pupils were examined, neither the man's wife nor any other person being called. Mr. Sankey *swore* that the artery of the arm had NOT BEEN CUT, and he further

swore *that he had* TIED *it*. Verdict "Died by the visitation of God." On the absurdity of this evidence being pointed out by various medical practitioners, a second inquest was demanded by the public, when three medical gentlemen were deputed to examine the arm, who found *two ligatures* on the brachial artery ABOVE the wound; and immediately below the *lower* ligature, about an inch of the vessel had been cut away *at the part corresponding* to the *opening* made into the vein. Mr. Sankey at this inquest deposed that when he saw the patient *he thought* there was an *internal* arterial bleeding, and that he accordingly tied the vessel above the wound, but that when he examined the body after death, he found that the artery *had not been cut*. The wisdom and love of truth displayed by the coroner on this occasion, are only equalled by the extraordinary skill and swearing of the surgeon. The coroner holds an inquest, and is satisfied with the evidence of the three implicated parties; he is informed by the surgeon that the artery was *not cut*, by the same surgeon that he *tied* the vessels; and why?—*because it was* NOT *cut!* Thus both coroner and surgeon were quite satisfied. Precious surgeon! precious coroner!

The other inquest was held at Shelton, on the body of a newly-born male child. A surgeon of the name of Harding gave it as his opinion, that the infant was STILL-BORN; when the coroner, a Mr. Dent, stated to the jury, that though it appeared from the evidence that the child was *not* born alive, yet the offence of concealing its birth was so fully proved against the prisoner, that it became a duty to make her a public example; and this could only be done, by returning a verdict of *wilful murder*! The jury consulted—a very intellectual consultation it must have been—and the asses positively *did* bring in a verdict of wilful murder; thus making the woman KILL a still-born child. A brief report of this case, which is to be found in the *Pottery Mercury*, together with a detailed account of the Dover inquests, surgery and swearing, we will insert next week. Till when, we bid adieu to the non-medical coroners, and Mr. Swearing Sankey.

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IT is probable that we may diffuse considerable benefits, by investigating the nature of that condition of the intellect which is denominated *unsoundness*, and which has not been hitherto defined by lawyer or physician, although it is often employed for the mischievous purpose of depriving a *rational* individual of the exercise of his property, and of consigning his person to the custody of keepers. That we are not singular in our objections to the destructive force of this unexplained phrase, "*unsoundness of mind*," we quote the expressions of Dr. Haslam, in his oration before the London Medical Society, as reported in THE LANCET of the 18th of March, 1826:—"In the successful prosecution of this subject, (the nature of the human mind,) we may expect a nicer discrimination between crime and insanity, than has been hitherto established; and anticipate the explosion of that baneful doctrine of the *mind's unsoundness*, the mischievous contrivance of forensic subtlety, the refuge of ignorance, and the tool of fraud; the blazon of materialism, an insult to common sense, and a libel on the Christian religion." This character of unsoundnes of mind, if such state can be satisfactorily proved, is deserving of the gravest reprehension; and it is to be hoped, that some of our correspondents who are enamoured of the doctrine, and who profit by its convenience, will correctly demonstrate *some state* of the human intellect, which is neither idiotcy, lunacy, nor insanity, that may be considered—*unsoundness*.

These observations have been suggested, by a perusal of the reported proceedings in a case of alleged lunacy, that lately occurred

at Nottingham; where the jury, either by their own deliberations, or from some *disinterested* assistance they may have received from the commissioners, promulgated the following extraordinary verdict:—"We find that the Rev. William Holmes is NOT a *lunatic*; but from loss of memory, partly arising from paralysis, and partly from old age, he is incompetent to manage his affairs; and, CONSEQUENTLY, that he *is of unsound mind*, for two years last past." To establish unsoundness of mind, this philosophical jury have only adduced, that by paralysis and *old age*, he labours under a loss of memory, which is the common lot of all human beings. Every individual, as he advances in years, forgets the names of his acquaintance, and the date of events; frequently repeats inquiries that have been previously answered, and tells the same story over again. This decline of the recollection in old age, is a law of our nature, the establishment of divine wisdom; and to this state of *unsoundness*, every individual of the Nottingham Jury will be reduced, in the unfortunate event of the protraction of his existence to that period, which was formerly denominated an honourable old age. Long life, under such a system, will prove the greatest curse that can befall our species, and create additional invitations to suicide, in order to avert the horrors of a madhouse, or the cruelties of unprincipled relatives. The extension of this doctrine will become the great bar to industry, and subvert those economical habits by which a fortune is accumulated, as every one will necessarily anticipate, when he has passed the meridian of life, that he is daily verging on *unsoundness*; and that to prove this nefarious hypothesis, the best part of his property will be sacrificed to the rapacity of lawyer and physician. If such be the facility of disqualifying a rational person from the management of his affairs, a door is opened whereby the heartless relative may set aside the just indignation of his parent, by proving him susceptible of the common fallibilities of our nature, and interpreting the usual lapses of recollection, as incompetence and *unsoundness of mind*. If we examine this subject more intimately, we shall discover the manifest impropriety of the term *unsoundness*, which is the negative of *sound*. Could the possession of perfectly sound mind be attributed to any human being, (which has never been pretended) any, even the slightest deflection from such perfect state, would constitute a degree of unsoundness; any imperfection in the sensitive organs, by which our perceptions are conveyed, and which are the foundations of our intellectual acquirements, would amount to *unsoundness*. The most trifling lapse of recollection, the slightest error in judgment, or defect in the process of reasoning, would constitute *unsoundness*, as such frailties are aberrations from perfect soundness of mind. The lawyer, even Lord Hardwicke, with whom this pernicious doctrine appears to have originated, has not described any symptoms by which this *unsoundness* can be detected; nor has any physician, who has exclusively devoted himself to the particular investigation of the mind in its various vicissitudes, even affected to define this *state of unsoundness*, as distinguished from idiotcy, lunacy, or insanity. It is therefore a fair presumption, that this undefined state of unsoundness of mind, is the mere creature of Lord Hardwicke's imagination, and that succeeding chancellors, who have adopted this ambiguous phrase, have fondly dreamed of the same phantom. Mark the consecutive absurdity of this process. The Nottingham Jury, twelve ordinary men—

"Whose souls proud science never taught to stray
Far as the solar walk, or milky way,"

of course putting watch-makers and dairymen out of the question; these twelve men, without rudder, compass, or chart, are directed to discover this *state of unsoundness*

and in the event of their verdict, to place the unfortunate individual in a condition of equal disqualification with an ideot ex naturtate, or with a lunatic. In this *legal* inquisition, you may readily suppose that much conflicting and contradictory evidence was adduced. The party that had petitioned *for* the commission (his own daughter!!!) was in no degree reserved in "scraping together" every possible testimony to deteriorate the intellect of her father: and those who opposed the commission, persons of the highest respectability, morality, and science, deposed, from their intimate knowledge, and medical investigations, that his mind was wholly exempt from insanity,—that he was a rational agent, and a responsible being. In order to proceed fairly, we will, for the present, neutralize, or rather, set aside, these opposite testimonies, in order to exhibit the conduct of this Nottingham Jury. In all the important inquisitions that have been held in the metropolis, and we believe elsewhere, relating to lunacy, the supposed lunatic has been *produced*, when the evidence, *for* and *against* the commission, had been concluded; in order that the jury, after having heard the evidence on both sides, might, by *personal inquiries*, ascertain the actual state of his mind, and thereby become enabled, conscientiously, to discharge their duty. It must be evident, that in a contested inquiry, the jury ought not to give implicit credit to either side; and if they are honest and intelligent persons, nothing but the evidence of their own minds, by personal intercourse with the supposed lunatic, ought to satisfy their love of truth, honourable feelings, and solemn obligations. Yet this Nottingham and notable jury, NEVER SAW THE SUPPOSED LUNATIC!

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THE Pupils of St. Bartholomew's Hospital continue to complain most bitterly of the manner in which their interests are disregarded by the medical officers of that institution. We are really surprised how individuals, having any pretensions to the character of men of honour, and gentlemen, can coolly pocket the enormous fees extorted from the students, without attempting to afford them the smallest equivalent in the shape of instruction. The post mortem examinations are neither publicly announced nor publicly effected; notices of operations are seldom or never posted; the anatomical demonstrations are usually given about twelve or one o'clock in the Theatre, whilst the surgeons of the hospital are seeing the patients in the wards; and to complete the catalogue of evils, no regular course of clinical lectures is delivered: in fact, unless from Mr. Lawrence, the pupils scarcely hear a word explanatory of any disease in the hospital. We fear that the students will find no adequate remedy without an application to the Committee of Governors.

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ON Monday last, at the Veterinary College, Mr. Coleman commenced the delivery of his annual patent stuff, miscalled "Lectures." The professor was more than usually guarded in his expressions, broached no new doctrines, abstained from recommending his patent frog-pressure shoe, patent spit-bar shoe, and his two or three dozen other patent shoes, and studiously avoided noticing the controversies on veterinary affairs which have engaged the attention of veterinary surgeons during the past year. In this he displayed more of sagacity than of liberality. It would seem indeed that he does not like public discussions, or that his valuable and scientific doctrines should be subjected to the scrutiny of the vulgar; as he had the modesty in the course of his lecture to say, that if any gentleman had entered to his class with a view to take notes of his lectures for publication, he would, on application, return him his money, as he was determined that they should not appear in print. God help the

man! he surely might have recollected that there are far cheaper methods of soiling paper than by impressing on it the typical marks of such nonsensical trash. But we would have Mr. Coleman bear in mind, that the veterinary college has had expended upon it fifteen thousand pounds of the public money, granted at different periods by Government; that the country therefore has a right to know what the institution has accomplished for the advancement of science; and that consequently his lectures are not less the property of the public (if worth any thing) than those of Mr. Abernethy, or those delivered at the College of Surgeons, or any other public institution.

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The discussion on the treatment of erysipelas was resumed at the Medico-Chirurgical Society on Tuesday evening, and lasted upwards of two hours. Mr. Lawrence delivered a most eloquent speech, supporting and further developing the principles which he maintained on a former evening. Want of space compels us to defer the report.

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We insert the following letter from Mr. Cooke, and will publish a full list of the subscribers in our ensuing Number:—

MR. COOKE'S LETTER TO HIS SUBSCRIBERS.

Gentlemen,—It seems very ordinary and trifling, to say that I am deeply grateful for your very liberal subscription, the amount of which (226*l.* 8*s.*) has been conveyed to me by Mr. Wakley. Your subscription owes its commencement to the high public spirit, as well as the kindly feeling, of the Editor of The Lancet, and it has had a more than satisfactory consummation from the same honourable principles in yourselves. These perhaps may sound as common-place expressions, signifying little, and not even expressing much; but verbose professions are generally the refuge of insincerity, while the intensity of real emotion is indicated by one brief expression, which defies misconception, and cannot but be true. A complete explanation of this vexatious affair is, however, due from me; and I proceed to give it as briefly and as explicitly as I am able.

I went to Exeter in March, 1826, as a perfect stranger, having been induced to leave my native county (Stafford) by threatening symptoms of phthisis, and directed to Devon as a warm part of the island, by the same unwelcome monitor. Finding myself a good deal at leisure, I determined to consult some gentlemen of Exeter with whom I had become acquainted, respecting the expediency of adopting a plan that I had long reflected upon, namely, that of giving a course of anatomical lectures to gentlemen of any profession, who might be inclined to study anatomy as a branch of general science. The suggestion was warmly approved, and I commenced in October with the pleasure of addressing about fifty gentlemen, among whom were medical practioners and students, reverend gentlemen, attorneys, artists, and others of like respectability. Our number declined to about forty, at which it continued. We were occupied upon preliminary objects and osteology, during the course of about ten lectures. At the time of the 8th, I wrote to a friend in London to procure a subject, an office which none was either more capable or more willing to perform. Owing, however, to the wretched condition of the profession in this respect, no subject could be obtained. Many letters passed between us, and the lectures in the mean time drew desultory and unconnected. As a dernier resort, therefore, to the hazard of which I was by no means unawake, and which I had taken great pains to avoid, I was compelled to authorise the disinterment of a body from a place half a mile distant from the city. I had *every* reason to believe that the business would have been well conducted. I should not be justified in going into more particulars upon this point, but medical men will know what is meant by the word *every*.

Hands apt, time fit, &c.

The event was this. A grave was seen to have been disturbed, a certain person was suspected to be the agent, and the officers were directed to my house, partly by his family, and partly by my own circular. They arrived at ten o'clock on the following morning, by which time I had commenced my dissection, having to meet my fellow students on that evening. The body was identified, and I was conducted to the Guildhall, and there the matter was viewed

as an offence of a very serious nature, the aim and object of the accused being entirely overlooked, as if the moral turpitude of our actions were not to be estimated by any such a standard. A small quantity of linen was said to be missing, and the officers were resent in search of it, it being deemed necessary for the ends of public justice that I should be indicted both for the misdemeanour, and for a felony. This seems very extraordinary, but to the vulgar mind the very name of anatomy is a bugbear; because in the plenitude of consummate and contented "fat and pursy" ignorance, it knows not that any useful science is meant by the term, but conceives it as just synonymous and equally indefinable, with the "raw head and bloody bones" of the still relished nursery tale.

I and my securities were bound over in 400*l.* to answer the offence at the assize, not however till after a grave debate whether so deep dyed a crime were legally bailable. Fearing the effect of popular prejudice, I procured the removal of my cause into the Court of King's Bench.

It was tried at Exeter before Mr. Justice Park, and after conviction upon the misdemeanour, the charge of felony was ridiculed by that learned Judge, and by him the counsel for the prosecution was easily induced to give it up; not (as was hinted) for the sake of my character so much as in charity for that of his clients. The result is well known. I was fined 100*l.*, and only escaped imprisonment on account of what the court was pleased to call my *otherwise* good character, and from the fact of my having a wife and family dependent upon my exertions.

Thus, Gentlemen, we are obnoxious to fine and imprisonment for paying obedience to the laws. We have legally-appointed examiners on the one hand, who bid us dissect human bodies, and we have legal sages on the other who forbid us to possess them. Surely these potentates should condescend to an armistice, so as to take breath and consider this point—whether sound health be preferable to disease, or a long and fatal illness to one of short duration terminating in health. Then, accordingly as they *happened* to determine, we might either pursue our studies or turn our hands; or in the event of the point being considered indeterminable, (as in effect it is at present,) we might either adopt the profession with all its absurdities, or (what would be better) decline both.

This, Gentlemen, is a "brief abstract" of what was a very long and harassing process; commencing in November, continued till May, and attended by concurrent annoyances daily arising, such as vestry-meetings publicly called during church service, "to consider the best mode of prosecuting," &c; the occurrence of such meetings, and the discussion of their affairs; continual legal consultations; the necessity of going to town on the same business; the loss of practice; and a very unpleasant kind of provincial notoriety. My prosecutors consisted of the undiscerning many of a populous parish; and their constant endeavour was, as much as possible, to harass feelings and destroy reputation. But you, Gentlemen, by a noble and strenuous effort, have blasted that endeavour;—you have taught the young anatomist that he may pursue his studies fearlessly; and you have told the public generally, that until their good sense leads them to protect anatomists instead of persecuting them, you will yourselves advocate their own cause, and compel the public to allow their medical advisers to qualify themselves, whether they will or no. When I consider the great amount of your subscription, I am equally astonished at the fine liberality of the medical profession, and at the powerful action of that engine by whose operation the work has been done. I congratulate you, Gentlemen, upon your possession of this independent medical observer, as upon the existence of what has heretofore been a great desideratum, viz. a medical periodical, whose business should be to watch over the interests of medical students, to report the proceedings of medical societies, to observe and communicate to the profession the practice of those gentlemen who fill public stations, to report important cases, and to form a free channel through which the humblest individual injured may obtain redress, and the most exalted, if doing ill, may hear the voice of reproof.

At the first proposal, and during the progress of your subscription, I have felt sensations of deep humility, upon reflecting that so high and munificent a proposition, so grand in sentiment and in feeling, should have for its aim a mark so obscure and humble; but I have reflected that individual merit was no point of consideration,—that anatomy was to be protected, that the portal of the medical temple was to be defended; and upon this reflection, I have learned to view the case indifferently, and as one rather regarding the profession than myself. Many of the most distinguished members of that profession have done me the honour of suffering their names to appear; and though other eminent individuals have chosen rather to do good by stealth, forbidding any public announcement of their names, yet such and so general has been the feeling of generosity and zeal for the science, that I am justified in boasting of having received the support of the medical profession. In conclusion I beg particularly to thank

those gentlemen, who, as members of various medical societies, have thought proper to honour me with their notice. To those also I present my sincere acknowledgments, who have devoted some time to a sort of canvass of their medical friends. To all I repeat my assurances of the high sense I entertain of their liberality and public spirit, trusting that while I steadily pursue the path upon which I have entered, I shall never lessen the dignity of our common profession by any act really entailing disgrace.

I have the honor to be,
Gentlemen,
Your very obedient and much obliged
Servant,

WM. COOKE.

London, Nov. 12th., 1827,

## SUBSCRIPTION

TO PAY THE FINE AND LAW EXPENSES OF MR. W. COOKE, OF EXETER.

*To the Editor of* THE LANCET.

SIR,—I was extremely sorry to observe in your last LANCET, that the subscription for Mr. Cooke had finally closed by that gentleman's desire. I had collected the sum of 3*l.* 11*s.*, and my reason for not forwarding it earlier, was from the hope I should be able to augment the sum in aid of the subscription to indemnify that gentleman from such a gross oppression.

I have the honour to remain,
Sir,
Your obedient Servant,

JOHN HEWSON,

Lincoln, Nov. 9, 1827.

| | £ | s. | d. |
|---|---|---|---|
| Mr. R. Bousfield, Surgeon.. .. | 0 | 5 | 0 |
| E. P. Charlsworth, M.D..... | 1 | 0 | 0 |
| Mr. F. E. Frankylin..... | 0 | 5 | 0 |
| Mr. E. B. Drury, not medical . | 0 | 5 | 0 |
| Mr. Sulton Harvey, Surgeon .. | 0 | 10 | 6 |
| Mr. John Hewson, ditto ..... | 0 | 10 | 6 |
| Mr. T. Fawssett, pupil of ditto | 0 | 5 | 0 |
| Mr. F. A. Sayles, Dentist .. .. | 0 | 5 | 0 |
| Mr. Tuke, not medical.... ... | 0 | 5 | 0 |
| | 3 | 11 | 0 |
| Amount before advertised .... | 222 | 17 | 0 |

Total amount of the Subscription, Two Hundred and Twenty-six Pounds Eight Shillings.

## WESTMINSTER MEDICAL SOCIETY.

*Saturday, Nov.* 10.

Dr. SOMERVILLE in the Chair.

THE minutes of the preceding meeting having been read and confirmed, the President stated, that Dr. Barry had undertaken to lay before the Society that evening, a communication on the subject of

INTERNAL ANEURISM.

Dr. BARRY opened the discussion by observing, that although the theory and the treatment of aneurisms affecting the arteries of the great cavities, particularly those of the thorax, must have been at all times of the most vital importance to mankind and to the profession; and although the subject had been already amply treated by the ablest men, it had become more pointedly interesting to us at the present moment, owing to some recent events that had occurred in this metropolis. Dr. Barry lamented the absence of the very distinguished individual to whom these events were chiefly due, and paid a high compliment to his talents.

The ancients, he said, were absolutely silent as to internal aneurisms, unless we chose to consider that Hippocrates, when he talks of varix of the veins of the lungs, alludes to aneurismal dilatation of the thoracic arteries: a thing not improbable, because the term *vein* was then indiscriminately applied to all blood-vessels, and *varix* to all their dilatations. But, as aneurisms of the extremities are frequently mentioned by Galen, Celsus, and others; and as the principles upon which all aneurismal dilatations are produced and cured, seem to be the same, the history of the progressive improvements in the treatment of external, will naturally lead us to the application of these improvements to the cure of internal, aneurisms.

After noticing the spontaneous cure—the cure by compression—that by tying the artery between the tumour and the heart—that said to be effected in some rare instances by bleeding, low living, and rest; and finally, the plan of cure by tying the vessel at the distal side of the tumour: Dr. Barry contended, that the rationale of the cure is the same in all, viz. the diminution of motion in the blood of the aneurismal sac, the consequent formation of a congulum, and the organisation of fibrine. The latter, by its contraction, diminishes the size of the clot, by squeezing out the more liquid parts, and the red globules. Thus vessels are formed. The arterial

coats follow this contraction, and thus the sac becomes solid, whilst it diminishes in volume. When Deschamps and Sir A. Cooper tied the femoral artery beyond the tumour, the operations failed, because, in both cases, lateral arteries were left open between the ligature and the aneurism. This circumstance cannot occur when the common carotid trunk is the subject of operation, and therefore a coagulum will be formed between the ligature and the heart, as well as above the ligature. In aneurismal dilatation of the innominata, and root of the subclavian, if the circulation be interrupted in the carotid, as in the case of Mrs. Denmark, a less quantity of blood is sent through the brachio-cephalic trunk, than in a state of health. If under these circumstances the subclavian be tied, a still less quantity will be sent into it; the motion is consequently diminished, and the cure, which nature had commenced, is expedited and accomplished before the aneurismal tumour has acquired sufficient volume to press fatally upon the trachea, or on any other important organ. The protrusion of the sternal end of the clavicle, and the incipient dislocation of the sterno-clavicular articulation, perceptible in this case before the operation, have disappeared. The constant pains of the head, neck, right shoulder and arm, have ceased; but the dyspnœa continues. Whether this woman's span of life be ultimately prolonged or not, her sufferings are certainly diminished, and the principle of the operation hitherto is justified.

Dr. Barry had examined this woman within the last fifteen days, and he could state, that neither percussion nor the stethoscope indicates any organic change in the heart.

Dr. Barry, in conclusion, remarked, that it should rather be considered as the misfortune of the present state of our knowledge, than the fault of individuals, that aneurisms of the ascending aorta and its arch, are often mistaken for other diseases, and not detected before they prove fatal. There is, absolutely, neither functional symptom, nor physical sign, by which the existence of this terrible disease can be proved, before the aneurismal bag touches the walls of the thorax at some point. Then, indeed, percussion and the stethoscope can generally place the matter beyond all doubt.

He apologised to the Society for taking up so much of their valuable time, and sat down amidst universal applause.

Mr. Mayo observed, that the propriety of the principle of tying an artery beyond the aneurism, which had been proposed by Anel, Desault, and Deschamps, and which had lately been put into execution in several cases by Mr. Wardrop, was now generally admitted by surgeons. A case had lately occurred under the care of his friend Mr. Phillips, where an aneurism of the subclavian artery had undergone a spontaneous cure, and he hoped that Mr. Phillips would favour them with an account of the patient. In a case of femoral aneurism, in which the common operation was performed by Mr. Bell, of tying the artery above the tumour, a circumstance had occurred worthy of notice. On a certain day after the operation, the pulsation in the tumour had slightly returned; the day after that had increased, but, on the following day, it had again disappeared. Mr. Mayo again confirmed the propriety, in certain cases, of tying the ligature of an artery on the distal side of the tumour.

Dr. Johnson thought, that the Society was certainly highly obliged to Dr. Barry for the learning he had displayed on the subject of aneurism; he had expected to hear a little more concerning its nature and causes. There was, in his opinion, a great distinction to be made between a mere dilatation of an artery, which might last for life, and that state where a pouch went off from a vessel. He conceived that Mr. Lambert's case was one of the former disease; and he considered, that the cases in support of the operation beyond the tumour, were by no means very decisive, although he did not, by that statement, wish to call in question the propriety of the operations, of which he *highly approved*. He thought, however, that the ligature of an artery beyond the tumour, was an operation only applicable to those cases where no vessel arose from the sac, or intervened between it and the point of ligature; for, in Sir Astley Cooper's case, where such small vessels as the epigastric and *iliacus internus* (the Doctor obviously meant the arteria circumflexa ilii interna) came off from the sac, the operation had failed. There was a remedy which, in some of these diseases, he considered to be of great benefit, namely, the application of ice. In a very severe case of hypertrophy of the heart, which had lately been under his care, the patient had obtained extraordinary relief. Dr. Barry had mentioned, that in Mrs. Denmark's case, the carotid artery was obliterated, but he was decidedly of opinion, that had that been the case, the circulation would not have returned so speedily.

Mr. Stafford gave an account of Mr. Phillips's case of aneurism of the subclavian artery, which is now undergoing the natural process of cure. The tumour is greatly diminished; no pulsation is perceptible in it, or in the right carotid or radial arteries. The motions and sensibility of the arm are greatly impaired, and the fingers are of a livid hue

Mr. Skene offered some general physiological observations, drawing an analogy between the steps of nature in curing aneurism, and the principles of the operation, and thus deducing its practical expediency.

Mr. Bushel, the house-surgeon of St. George's Hospital, then rose, at the request of Mr. Mayo, to relate the circumstances of a case of femoral aneurism, which had lately occurred in that institution, under the care of Mr. Brodie. The patient was admitted for a large popliteal aneurism, which had a very violent pulsation, and the integuments covering which were very much attenuated. Mr. Brodie had tied the femoral artery in the usual situation, and the patient had gone on well till the thirtieth day, when a slight hæmorrhage occurred from the wound. This, soon after, notwithstanding the application of pressure, recurred to an alarming extent, and it was deemed advisable to secure the artery in the groin. The patient went on well for several days, (we think a fortnight,) when a slight bleeding took place from the wound; however, not more than a table spoonful was at this time lost. It was at first supposed, that this might arise from some irritation of the granulations. It recurred, however, several times. It was now conceived, that ossification of the arteries might exist; and it was, therefore, not thought advisable again to secure the vessel, and an instrument was applied to compress the artery, and prevent the hæmorrhage. This, however, seemed to have induced mortification of the limb, and the patient died. On dissection, it was found that the coats of the artery were not ossified, but converted into a steomatous degeneration.

Dr. Macleod gave an account of a case which had been transmitted to him for publication, where an enormous aneurism of the subclavian artery (or the aorta) had made its way through the ribs, and burst into the mamma. This became enormously swollen. It only retarded the progress of the disease for a few hours, for it soon gave way, and the patient died of hæmorrhage.

After a discussion on the absurdity and utility of the distinctions between the domains of surgeons and physicians, which was conducted by Messrs. Mayo, Macleod, and Thomson,

Dr. Somerville proposed, that as the hour of meeting was now elapsed, that the subject should be resumed at the next meeting; but, in order that it might apply equally to surgeons and physicians, that it should be changed to "aneurism in general." Dr. Barry, in choosing the name "internal aneurism," had done so, because Dr. Gregory, in the previous evening, had expressed a wish that medical and surgical subjects should be discussed alternately, and he thought that denomination might apply to both. Of late, great inroads had been made on the territories of the physicians, which he conceived were bounded superiorly by the clavicle, and below by Poupart's ligament. Mr. Abernethy had first encroached on them, by tying the external iliac artery; then that great *Tamerlane* of surgery, Sir Astley Cooper, had tied the aorta itself, and now Mr. Wardrop had commenced operations at the other boundary, and was rapidly making his way into the cavity of the chest. He would be most happy to enter on the subject of "aneurism in general" at the next meeting.

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## LONDON MEDICAL SOCIETY.

*Monday, November* 12.

Dr. Haslam, President, in the Chair.

A general Meeting of the Members took place this evening, to receive a report of the state of the Society. The Chairman read the report, from which it appeared that the Society is in a very flourishing condition, having received a considerable accession in the number of its members of late, and having a large balance of money in hand. Amongst the names of the corresponding members of the Society recently elected, we noticed that of Professor Tiedmann. The report being concluded, and a list of the books lately purchased read at the request of Dr. Blick, a discussion then arose with respect to the disposal of the papers read before the Society. Mr. Field, the Registrar, contended, that the papers after being read, became the property of the Society, and in consequence should be handed over to him and retained in his possession. Mr. Field cited an old law to the effect, that papers read before the Society, and afterwards given to the Secretary, then exclusively belonged to the Society. Dr. Haslam, Mr. Waller, and Mr. Gossett, strongly opposed the general application of this law, considering that it would be highly illiberal to prevent the members who brought forward papers from disposing of them in any manner they pleased. Dr. Haslam spoke strongly of the advantages resulting from a publicity of the Society's proceedings; and Mr. Gossett very properly remarked, that if an old law did exist, which the Society at large considered as imposing unnecessary restraints, it was advisable to annul it, and adopt one better suited to their present views and feelings. But Mr. Field, forsooth, did not wish the Society "*to be robbed* of the merit which belonged to it;" that is to say,

we suppose, that he thought it better for the papers to be transcribed into his book, and there for ever buried, than that the authors should take other means of giving publicity to information, perchance, of the most valuable kind. No decisive arrangement was made on the subject.

Mr. GOSSETT briefly related a case of dislocation of the malar bone at present under his care. The patient is a resurrection man, and the accident was occasioned by a blow with the fist. The bone is completely driven in at its zygomatic junction, and of course thrown forwards and outwards at its attachment with the superior maxillary bone. The injury is of a month's duration, and it being impossible to reduce the bone, the question of the propriety of an operation arises out of the circumstance of the man being unable to separate his jaws only to a very limited extent, not more than three quarters of an inch. To a question from Mr. Lloyd, whether the orbit was injured in this case, Mr. Gossett replied, there was a "slight twist" perceptible; the frontal connexion of the bone, however, was very little impaired. No further discussion took place on this subject, and

Mr. LLOYD next made a few observations on *ranula*, of which disease, he said, that he had seen many instances which he had treated successfully by the use of a seton, after the laying open and injection of the tumours had failed. These remarks elicited no reply.

Dr. BLICK spoke of a case of parturition which he had lately attended; it was what is termed a foot presentation; the child was born, with the exception of the head, and having gone so far in expelling the child, the uterus ceased to act. In this state of affairs, and not being provided with forceps, Dr. Blick was fearful that the child would be suffocated; he therefore introduced a catheter into the child's mouth, and having attached a bellows to the opposite end, proceeded to inflate the lungs. This action was kept up for about ten minutes; the sound of respiration soon became distinct, and after a few inflations the child began to cry. Dr. Blick having now obtained his forceps, applied them, and delivered the woman with facility. He (Dr. Blick) had never before adopted this kind of practice, nor could he find any account of such practice recorded. The face of the child was towards the sacrum.

Many objections were raised upon the treatment of this case; on the one hand it was contended, that the application of the forceps was in such circumstances very difficult, and, on the other hand, it was argued, that there was no necessity for using them, the child having passed so low down, that the finger might readily have been introduced into the mouth. Again it was said, that artificial respiration was not requisite in these cases, and that the chief object of attention should be to keep the funis free from pressure; others doubted that respiration had been effected. The relator of the case said, that he found no difficulty in using the forceps in such cases, that although it were possible to introduce the finger into the child's mouth, it did not follow in such a case, as a natural consequence, that delivery could be effected, without injurious violence to the child. With respect to the non-necessity of artificial respiration and importance of attending to the circulation in the funis, Dr. Blick observed, that in 99 cases out of 100, the placenta was detached as soon as the body of the child was born, and of course the circulation was not carried on in such cases.

A long dispute arose on the employment of forceps generally, in the course of which, much conflicting testimony was advanced, proving that the law does not stand alone and unrivalled in its "glorious uncertainty." Some of the members, Dr. Williams, Mr. Proctor, and others, had attended "hundreds of cases" without using the forceps, or with a very few exceptions; and it was further stated, that Mr. Gaitskell of Rotherhithe, had attended, during a practice of 40 years, upwards of *six thousand cases* of midwifery, and had used the forceps only *once* or *twice*. On the contrary, Dr. Blick said, that he had used instruments in some hundred cases, and he had been invariably successful. He contended that the use of the forceps saved the mother much unnecessary pain. The opinion and practice of Dr. Clark were referred to by Mr. Lloyd, from which it appeared, Dr. Clark approved of the use of forceps in a great number of instances. With respect to the little danger in using the forceps, Mr. Lambert said, that an eminent physician-accoucheur of his acquaintance had used the forceps in upwards of *seven hundred cases*, and had never met with any untoward circumstance.

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## ABUSES AT ST. BARTHOLOMEW'S.

*To the Editor of* THE LANCET.

SIR,—I regret to say that the observations which appeared in THE LANCET of the 27th ult., respecting post mortem examinations at St. Bartholomew's Hospital, have not yet been of any service. Subjects are still examined without any prevous notice, and none but the dressers and pupils,

who may happen to stroll into the dead-house at the time the examinations are being made, have an opportunity of seeing them. In the prospectus of the lectures for this season it is said, "morbid inspections, as opportunities occur, *at one o'clock*." Even in this last particular no regularity is observed, for examinations are made at all hours. This very day, *at twelve o'clock*, the body of a man was opened, to whose case I, for one, had paid great attention, and wished particularly to ascertain the appearances which would present themselves after death; but as I had no means of learning at what time the inspection was to be made, I was disappointed in seeing it.—I know no reason, Sir, why post mortem examinations should not be conducted in the anatomical theatre, where all students who wish to attend might be easily accommodated. At all events a notice should be posted on the board at the theatre, specifying the day and hour when it is intended a morbid inspection should be made.

The physicians and surgeons should recollect that the students pay them most handsomely, and they ought in duty to afford their pupils every facility for making themselves thoroughly acquainted with every branch of their profession. Hoping you will find space for these remarks in your truly valuable journal, through which so many abuses have already been amended,

I subscribe myself, Sir,

Your obedient servannt,

A STUDENT.

Nov. 7th.

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## TOWN INFIRMARY, BIRMINGHAM.

STRICTURE — RETENTION OF URINE — OPERATION.

HENRY BIGGS, ætat. 30, a discharged soldier, had laboured under stricture in the urethra ten years. The difficulty in making water became so great, that during the last 18 months he had been a patient three times in a public hospital; was intrusted principally to the care of the dressers, who made, with considerable violence, several unsuccessful attempts to introduce the catheter into the bladder. Since his discharge from the institution, he has had occasional attacks of strangury: his urine passed generally by drops. On the 19th of May, one of these fits came on, and on the following morning was admitted into the Town Infirmary, under the care of Mr. Cox. On examining the abdomen, the distended bladder was readily detected rising above the pubes, and the parts exceedingly tender to the touch. He experienced excessive desire to pass his urine, accompanied with great pain, increased in proportion to the attempts to overcome the obstruction; great heat and dryness of the skin; full pulse; in fact, he exhibited all the symptoms of this excruciating disease to a high degree. He was extensively bled, leeches applied to the perineum, the warm bath, full opiates administered by mouth and by injection. Different sized catheters and bougies were attempted to be passed, and the plans recommended by Sir E. Home adopted, but to no effect. On the morning of the 21st, the symptoms had increased to such a degree, that no time was to be lost in relieving the bladder. A consultation was called, and it was unanimously the opinion that immediate recourse must be had to the knife. Amongst the gentlemen present, was Mr. R. Grainger, who took great interest in the case, as the operation to be adopted was that recommended by his father. The operation was performed by Mr. W. S. Cox, in the following manner:—The patient was secured as for lithotomy; a straight sound was introduced as far as the strictured point; a free external incision was made between the left crus and bulb, a second divided the fascia and the fibres of the transversus perinei. The urethra, distended by the sound, was now exposed, and its point by careful dissection denuded. An attempt was made to introduce the female catheter, and afterwards a probe, into the bladder, in the supposed course of the continued portion of the canal, which did not succeed. The membranous portion of the urethra was so obliterated and impervious, as to become undistinguishable from the surrounding parts. Mr. Cox now attempted to divide the prostate as nearly as possible to the neck of the bladder, with a French bistoury, but was foiled from the shortness of the instrument, and in some degree from the recession of the gland, from the distended state of the bladder: considerable venous hæmorrhage occurred at this part of the operation. The staff was now withdrawn, and not succeeding in detecting the canal, the fore-finger was carried deep into the wound against the prostate; guided by it, a trochar was introduced, and the bladder punctured through the prostate, as nearly as possible in the natural situation of the opening into the bladder, and its contents evacuated. An elastic catheter was now introduced through the external wound into the bladder, the patient put to bed, simple dressing merely applied, and a full opiate administered. Six hours after the operation, the tension and soreness of the abdomen were not removed, but rather augmented; skin hot and dry; tongue furred; much thirst and restlessness; 20 leeches

applied, and afterwards warm fomentations. He had a stool, and passed a quantity of blood from the wound. Saline draughts, with repeated opiates, were ordered. In the evening, as the symptoms evceived but little remission; the leeches were repeated; passed a restless night.

22. Abdomen tense and tender; to repeat the leeches; a dose of castor oil ordered; urine passed freely through the catheter and by its sides; bowels acted upon twice. In the evening, very much relieved; it was, however, deemed necessary to repeat the leeches, and to give a full opiate.

23. Enjoyed a good night, free from pain; all inflammatory symptoms subsiding; about a table spoonful of urine passed per urethram.

24, 25, and 26. Continued to improve; urine passed still more freely; catheter removed from the bladder. From this period, little or no water passed through the external wound, which began rapidly to close; at the expiration of a fortnight it was nearly healed up, and the water was expelled in an ample stream through the natural passage. The following week he left the ward, perfectly well; the wound had entirely united, and his water passed in a full and copious stream. During the whole progress of the cure, as the man went on so favourably, it was not deemed necessary to introduce the catheter. The case affords an admirable example of the powers of Nature in forming a new passage, and strikingly illustrates the most excellent remarks of Mr. Grainger on this subject.

## ST. BARTHOLOMEW'S HOSPITAL.

MARCH OF INTELLECT! THROAT-CUTTING.

No one can have already forgotten the awful and petrifying deed committed, at the solemn hour of midnight, within the precincts of the "Hospital of Wonders," whereby an unfortunate wretch had his trachea divided for aneurism of the aorta, and was thus hurried, long before his time, to Pluto's dreary reign. The bad effects of that lamentable event have not, however, ceased with the life of the sufferer; the example has spread like wildfire, among "the fellows;" the tragedy has been repeated in Bartholomew's Hospital, another *throat has been cut* for aneurism, and death has once more triumphed over the efforts of human genius!

Owing to the secrecy with which the whole transaction was conducted, and the efforts which have been used by the agents in the business, to envelop it in impenetrable obscurity, we have had the greatest difficulty in tracing the features of the occurrence, but

"Man cannot cover what God would reveal."

And so having received information that a certain extraordinary preparation was lurking in Mr. Stanley's museum, by means of the *usual talisman* we obtained admittance, and thus found the key-stone, which has enabled us to bring the whole affair before the public eye.

An elderly man was admitted into Bartholomew's Hospital, under the care of Dr. Hughes, in the beginning of September, whose principal complaint was excessive difficulty of breathing. Dr. Hughes, with the dyagnostic accuracy peculiar to those who have received their education at the English universities, where medicine, as a science, is wholly unknown, conceived it arose from chronic asthma; he had frequent cough, great difficulty of breathing, expectoration of a frothy mucus, and a sense of weight, and constant uneasiness at the upper part of the sternum; and, accordingly, with a degree of determination which would have done honour to Sangrado himself, ordered the application of a blister, and the use of the "squill pill;" and actually, on one occasion, ventured to abstract a small quantity of blood from the arm. Notwithstanding, however, these *powerful* remedies, the disease for seven weeks continued to increase in severity, and, at length, one portentous night, it reached a state approaching to suffocation, and was pronounced by the Doctor to be *laryngitis*. The house-surgeon, Mr. Caswell, was instantly sent for, and, as we are informed, was ordered by Dr. Hughes to *cut the poor man's throat*; at all events, having before his eyes the brilliant example of Dr. Hewett, and his pure surgeon, Mr. Rose, the scientific Caswell proceeded to throw a light on the subject by making a hole in the unfortunate sufferer's windpipe! The operation, of course, afforded not the slightest relief, but quite the reverse; for, owing to the division of a considerable vessel, a quantity of blood passed into the air passages, and produced instant suffocation, the patient dying in the hands of the operator!

On dissection, it was found that *no portion* of the trachea, or even its ramifications, was in a diseased state; but, that an enormous ANEURISM, occupying the ascending and transverse portions of the arch of the aorta; had compressed the root of the bronchi, and thus given rise to the excessive dyspnœa, for which it was deemed advisable to incise the windpipe!

The aneurism turned out to be one of a very rare kind, being an enormous dilatation of the coats of the aorta, without rupture of

any. At the upper portion of the sac, at that point where it pressed on the bronchi, there was a remarkably thick and organised deposit of lymph, adhering strongly to the inner tunic, but easily distinguishable from it, by its colour and more spongy structure. The arteria innominata was entirely obliterated, and the orifice of the right carotid artery plugged up. Over the situation of the left carotid, which was quite pervious, there was placed perpendicularly across the aneurism, a broad firm lamina of coagulum, forming a complete septum between this artery and the cavity of the aorta, and which must have entirely prevented any communication between the carotid, and the blood circulating through the great vessels of the heart. The descending portion of the arch of the aorta was a little dilated, but was not lined with any deposit of lymph, nor in the cavity of the aneurism did there exist any deposition of coagulum in that unorganised state in which it is almost invariably found in false aneurism.

The preparation derived from this case, independent of the extraordinary circumstances connected with the *novel* operation, is one of a very rare and interesting kind, since it affords the best specimen, perhaps, to be found in any museum in the metropolis, of what has been denominated, *true aneurism*, the existence of which has been denied by so high an authority as Scarpa. It likewise exhibits a beautiful instance of the efforts of nature, in curing the disease, by shutting up the arterial trunks leading from the sac, and thus interrupting, or indeed, entirely preventing, the circulation of blood through it.

This valuable preparation is now in the possession of Mr. Stanley, who will, doubtless, be anxious to disclose its peculiarities to all interested in the subjects of *aneurism* or *tracheotomy*. How much *we owe* to the "enlarged intellectuals" of the London Hospitals! Pretty creatures, truly, to grant certificates of "sound chirurgical knowledge."

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BAD CONSEQUENCES RESULTING FROM UNSCIENTIFIC TREATMENT OF FRACTURES.

E. W. æt. 55, was brought to the hospital, having a transverse fracture of the right femur. She was crossing Skinner Street a short time previous, when she fell, and the wheel of a hackney-coach, ran over her thigh, and occasioned the fracture. The situation of the "solution of continuity," as the old surgeons have it, was about two inches from the condyles. It was as fairly transverse as it was possible to be. The *proximal* portion of bone (to use the admirable nomenclature of the late Dr. Barclay) stood over the lowermost or *distal* portion, to the extent of half an inch. The dresser of the day, who arrogated to himself a knowledge superior to that of the house-surgeon, considered this latter functionary as a useless sort of person, and took the especial charge of the case to himself. This person, with the assistance of sister Queen and her two "very useful nurses," proceeded to reduce the fractured bones. After a good deal of "*tugging*," they succeeded in getting about half the surfaces of the fractured ends opposed to each other. This seemed to satisfy the worthy dresser, for with a smile of satisfaction playing on his countenance, and with much self-complacency, he bound up the limb in splints. In the course of a few days they were removed for Mr. Vincent to examine the thigh, when the displacement of the fractured bones was sufficiently evident. Mr. Vincent and his knowing dresser kept up a "tiny" extension for a short space of time, but it proved wholly inefficient for the proper reduction of the fractured bones. It was foolishly enough supposed, that *position* might remedy the defect. The splints were replaced. The limb was laid on its outer side, the leg bent at a half right angle, and a pillow laid beneath the knee, to elevate it slightly above the level of the trunk. This plan was pursued for a week, but at the end of that period, when the splints were removed, the displacement was greater than when it was instituted. Dessault's plan was now had recourse to. A long splint, reaching from the pelvis to the bottom of the foot, was placed on either side the limb, and by the assistance of bandages, permanent extension was to be kept up. But where was the use of all this, if the fractured bones were not previously reduced. Were the splints to complete the reduction? If such was calculated on, the calculators must have been miserably disappointed; for after continuing the plan of treatment for a month, about one-third of the fractured surfaces that had been opposed to each other, had become consolidated by bony union. The proximal portion of bone which projected so much inwards, occasioned excessive pain, by pressing on the nerves, which pass down the inner side of the thigh; and every measure was quite inadequate to assuage her sufferings. He even tried extension as his last resource; but, alas! it was *now* a useless remedy. The poor woman was removed into *Patience* Ward, where she remained for upwards of three weeks, but its virtue contributed in nowise to the diminution of her sufferings. She was ultimately discharged, a living monument of queer surgery, and to bear, during life, the misery of irremediable lameness.

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Correspondents in our next.